

# Items of Interest

A MONTHLY  
MAGAZINE OF  
DENTAL ART,  
SCIENCE AND  
LITERATURE.



EDITOR

R. OTTOLENGUI, M.D.S., D.D.S., LL.D.

PUBLISHED BY CONSOLIDATED  
DENTAL MANUFACTURING  
COMPANY, NEW YORK, N. Y.

U. S. A.



VOLUME  
XXXIII  
1911

E. ROBERT'S







# Index to Volume XXXIII

January number begins on page.....	I
February number begins on page.....	81
March number begins on page.....	161
April number begins on page.....	241
May number begins on page.....	321
June number begins on page.....	401
July number begins on page.....	481
August number begins on page.....	561
September number begins on page.....	641
October number begins on page.....	721
November number begins on page.....	801
December number begins on page.....	881

- Abnormal Frenum Labium, 299.  
Abscess, Lateral Alveolar, 430.  
Abscesses, Pericemental and Septal, 609.  
Abscesses, Septal, 430.  
Actinomycosis, 522.  
Acute Frontal Sinusitis Simulating a Tooth Trouble, A Case of, 675.  
Adelberg, O., Discussion, 538.  
Adenitis, 522.  
Adjusting the Face Bow, 180.  
Advantages of Anatomical Occlusion, 189.  
Alabama Dental Association, 75, 154, 232, 314, 392, 395, 477.  
Allan, G. S., In Memoriam of, 225.  
All Porcelain Jacket Crown, The Technique of the, 908.  
Alumni Association of Marquette University, Department of Dentistry, 77.  
Alumni Association of St. Louis Dental College Annual Clinic, 240.  
Alumni Department, University of California, 766.  
Alveolar Abscess, Conditions Simulating an, 520.  
Amalgam, 1, 66.  
American Dental Society of Europe, 480, 794.  
American Society of Orthodontists, 21, 154, 232, 281, 314, 328, 331, 392, 477, 554, 878, 957.  
Ampere, 84.  
Anatomical Occlusion, Advantages of, 198.  
Anatomy of Sinuses, 191.  
Angina, Diagnostic Symptoms of, 524.  
Antisepsis, 458.  
Antiseptics, 610.  
Antiseptics, Detrimental Influence of, 425.  
Antiseptics, History of a Case Treated with, 461.  
Antiseptics, History of a Case Treated Without, 463.  
Antiseptics, Theory of the Usefulness of, 461.  
Antitoxins, 465.  
Appointments in the Army, 551.  
Archibald, Dr. L. D., Banquet Tendered, 78.  
Arizona Board of Dental Examiners, 320, 800.  
Arizona State Dental Society, 79.  
Arkansas State Board of Dental Examiners, 400.  
Arkansas State Dental Association, 75, 154, 232, 314, 392, 477.  
Army, Appointments in the, 551.  
Army Dental Corps, Bill as Passed, 311.  
Army, Dentists in the, 389.  
Arranging the Teeth, 185.  
Arthritis, Dental Causes of, 344.  
Ascertain and Safeguard the Common Rights of the Dental Profession, a Permanent Defensive Organization is Necessary to, 387.  
Ash, C. F., Discussion, 54, 534, 614, 703, 704.  
Attachment for Abutments in Bridgework and Porcelain Crowns or Section Crown and Bridgework, A New, 271.  
Attachment for a Double-Rooted Bicuspid, The, 275.  
Attachment of the Soft Tissues to the Teeth, 423.  
Attitude of Dentists Towards Children, 63.  
Austrian Stomatological Society, 360.  
Australian Dental Congress, 957.  
Automatic Apparatus for Burning Out the Wax, 518.  
Babcock, E. H., Discussion, 53, 56.  
Babcock, H. E., Discussion, 611, 612.  
Bacteria Tooth Powders—Their Ingredients and Effect on, 331.  
Baker, B. C., Discussion, 935, 939.  
Baker, L. W., A Preliminary Study of the Influence of the Forces of Occlusion on the Development of the Bones of the Skull, 110.  
Banquet Tendered Dr. L. D. Archibald, 78.  
Banquet to Dr. William Smedley, 637.  
Banzhaf, H. L., Dental Educational Council of America, 549.  
Barry, W. F., Discussion, 942.  
Base-plates, Construction of, 176.  
Base-plates in the Mouth, Introduction of, 177.  
Beginnings of Pyorrhea Alveolaris, Professor Black's Views on the, 467.  
Beginnings of Pyorrhea Alveolaris—Treatment for Prevention, 420.  
Better Reorganization of State Dental Societies and Some Benefits to Both the Public and the Profession, 915.  
Bi-anodal Tubes, 405.  
Bifurcated Roots, Posts for, 419.  
Bills Affecting Dentists Enacted by the Last Congress, 310.  
Bite-plates, Constructing the, 177.  
Black, A. D., Better Reorganization of State Dental Societies and Some Benefits to Both the Public and the Profession, 915.  
Discussion, 933, 942, 944, 945.  
Black's (Professor) Views on the Beginnings of Pyorrhea Alveolaris, 467.  
Black, G. V., Antisepsis, 458.  
Beginnings of Pyorrhea Alveolaris—Treatment for Prevention, 420.  
Calculus, Serumal Calculus—Pus-pocket Calculus, 436.



- Cleaning Teeth, 456.  
 Discussion, 612, 614.  
 Black (G. V.) Dental Club, 78, 157, 879, 959.  
 Bliven, C. F., Discussion, 533.  
 Board of Health, Dentists Appointed as Lecturers on State, 71.  
 Bogue, E. A., Discussion, 219.  
 Brain Inactivity, Mal-formed Bones of the Face as a Cause of, 190.  
 Brandt, H., Discussion, 54.  
 Bridgeport Dental Society, 560.  
 Brinkman, M. R., Discussion, 708.  
 Broomell, I. N., Discussion, 620, 622, 623.  
 Brown, S. D., In Memoriam of, 72.  
 Brush, The, 456.  
 Bryant, E. A., Appointments in the Army, 551.  
 State Militia Dental Corps, 955.  
 Buccal Teeth in Class II, The Elongation of, 846.  
 Buccal Tubes in Anchorage, Influence of, 829.  
 Buccal Tubes, Influence of, 825.  
 Buckwalter, C. L., In Memoriam of, 640.  
 Byram, J. Q., In Memoriam of, 639.  
 Calculary Deposit, Deposit Antecedent to, 437.  
 Calculus, 469.  
 Calculus, Deductions from Studies of, 440.  
 Calculus for Microscopic Study, Grinding, 440.  
 Calculus, Serumal, 436, 443.  
 Calculus. Serumal Calculus—Pus-pocket Calculus, 436.  
 California State Board of Dental Examiners, 959.  
 California State Dental Association, 75, 154, 232, 314, 392, 396, 477.  
 Canadian Dental Society and Ontario Dental Association, 878, 957.  
 Capon, F. J., Discussion, 697.  
 Capon, W. A., Discussion, 698, 705.  
 Caries, Treatment of Extensive, 167.  
 Caries, Treatment of First Stages of, 55.  
 Cast Alloy Inlays, 60.  
 Cast Gasket Porcelain Crown, The, 206.  
 Cast Porcelain Inlays, A New Process of Filling Teeth with, 690.  
 Casting of Gold, The Scientific, 507.  
 Casting Porcelain, 692, 694.  
 Cast Inlays, Dentists' Profit on, 635.  
 Cathartics Prevent Deposits, 441.  
 Cause of an Open-Bite Malocclusion, The, 896.  
 Cavities, Gold Inlays in, 2.  
 Cavities in Molars and Bicuspids in Which Porcelain Should Not Be Used, 856.  
 Cavities, Preparation of Gingival, 3.  
 Cavity Preparation, 96, 482.  
 Cavity Preparation for Inlays, 508.  
 Cavity Preparation, Incorrect, 98.  
 Cavity Preparation, Painless, 682.  
 Cement Fillings, The Possible Chemical or Pathological Effects of, 360.  
 Cement Matrix, 688.  
 Cementum, The, 424.  
 Central Dental Association of Northern New Jersey, 138, 690, 705, 817, 908.  
 Chayes, H. E. S., Public School Clinics, 128.  
 Telescope Crown, 11, 105, 409.  
 Discussion, 142, 378, 539.  
 Cheap Materials, The Use of, 63.  
 Cheeseman, F. E., A Plea for a Return to the Use of the Porcelain Inlay, 853.  
 Discussion, 936.  
 Chicago Dental Society, 159, 767, 957.  
 Children, Public Dental Service for, 57, 62, 64, 68, 71.  
 Class II, A Possible Etiologic Factor in, 22.  
 Class III, Inclined Planes in, 31.  
 Cleaning Teeth, 456.  
 Cleveland Dental Society, 351.  
 Clinical Demonstrations: The Cast Gasket Porcelain Crown, 206.  
 Clinic of Alumni Association of Chicago College of Dental Surgery, 80.  
 Clinics, Public School, 128.  
 Coil, 256.  
 Coil, High Frequency, 261.  
 Coil, Induction, 242.  
 Coil, Interrupterless, 266.  
 Coils, Dangerous, 260.  
 Colleges, Progress Made by, 588.  
 Color, Producing Desired, 910.  
 Colorado State Dental Association, 75, 154, 232, 314, 392, 477.  
 Combination Crown, 411.  
 Compressed Air, 744.  
 Conditions Simulating an Alveolar Abscess, 520.  
 Condyle Path. Its Importance as a Factor in Masticatory Effort and Means of Registration, The, 171.  
 Condyle Path, Recording the, 182.  
 Connecticut State Dental Association, 75, 154, 232, 240, 314.  
 Connecticut State Dental Commissioners, 796.  
 Co-operation of the State Society Officers Needed in the Reorganization of the National Dental Association, 946.  
 Conservative Treatment of the Dental Pulp, 221.  
 Constitution for the National Dental Association, New, 716.  
 Constructing the Bite-plates, 177.  
 Construction of Base-plates, 176.  
 Contact Points of the Teeth Upon Each Other, The Pressure of the, 426.  
 Contribution of Books Requested for German Library, 559.  
 ✕Conzett, J. V., The Gold Inlay, 1, 95, 161, 321, 481, 561, 721, 801.  
 Cooke, A. R., Discussion, 625, 632.  
 Correspondence: Can We Check the Flood? 68.  
 A Permanent Defensive Organization is Necessary to Ascertain and Safeguard the Common Rights of the Dental Profession, 387.  
 An Open Letter to My Friends of the Dental Profession, 719.  
 Appointments in the Army, 551.  
 Banquet to Dr. William Smedley, 637.  
 Dental Educational Council of America, 549.  
 Dentists Appointed as Lecturers on State Board of Health, 71.  
 Dentists in the Army, 389.  
 Letter from Dr. H. Carlton Smith Commenting on Dr. Roessler's Paper, 153.  
 National Dental Association, 792.  
 National Guard Dentists, 956.  
 New York State Board of Health. Action in regard to Oral Hygiene, 231.  
 Public Dental Service for Children, 62, 64, 68, 71.  
 Something About the Haskell Fund, 361.  
 State Militia Dental Corps, 955.  
 The Taggart-Boynton Suit Not a Final Test of Taggart's Patents, 229.  
 Count System, The, 626.  
 Crown, Combination, 411.  
 Crown, Telescope, 11, 105, 409.  
 Crown, The Cast Gasket Porcelain, 206.  
 Dalton, Van B., The Cause of Open-Bite Malocclusion, 896.  
 Danger in the X-Ray, 288.  
 Danger of Currents, 265.  
 Danger to the Patient, 289.  
 Deductions from Studies of Calculus, 440.  
 Delaware State Dental Society, 75, 154, 232, 314, 392, 477, 554.  
 Dental Causes of Arthritis, 344.  
 Dental Clinics, Need of, 771.  
 Dental College Work, Regarding, 586.  
 Dental Educational Pragmatism, 892.  
 Dental Education Council of America, 549.  
 Dental Fees, Improved, 922.  
 Dental Fluoroscope, 815.  
 Dental Laws and Licenses: Foreign Dental Laws, 471.  
 Argentine Republic, 471.  
 Bulgaria, 474.  
 France, 472.  
 Roumania, 475.  
 Servia, 476.  
 Dental Libraries, 520.  
 Dental License Under Medical Laws, 474.  
 Dental Profession, An Open Letter to My Friends of the, 719.  
 Dental Profession Become a Trade Union? Shall the, 384.  
 Dental Pulp as a Factor in Neuralgia, 42.  
 Dental Radiography, 81, 241, 401, 488, 566, 641, 727, 807, 881.  
 Dental Schools, Testing and Comparing the Product of the, 788.  
 Dental Service, Improved, 920.



- Dental Statutes, Improved, 919.  
 Dentists Appointed as Lecturers on State Board of Health, 71.  
 Dentists in the Army, 389.  
 Dentists' Profit on Cast Inlays, 635.  
 Deposit Antecedent to the Calculary Deposit, 437.  
 Detrimental Influence of Antiseptics, 425.  
 Development, 296.  
 Development of Negative, 657.  
 Developer, Choice of, 658.  
 Diagnostic Symptoms of Angina, 524.  
 Diet During Treatment of Pyorrhea, 103.  
 Difficult Eruption of the Third Molar Simulating a Sinus Trouble, A, 677.  
 Difficult View as to the Origin and Treatment of Pyorrhea Alveolaris, A, 102.  
 Disclaimer, 876.  
 Disease of the Dental Pulp, 43.  
 Diseased Dental Apical Regions, Systematic Pus Poisoning Associated with, 339.  
 Diseases, The Spread of Contagious, 762.  
 Distal Movement of Molars, 259.  
 DuBois, C. A., A Different View as to the Origin and Treatment of Pyorrhea Alveolaris, 102.  
 Duration of the Exposure, 286.  
 Dynamics and Anchorage in Orthodontia, with Special Reference to Efficiency, Some Phases of, 817.  
 Dynamos, 89.  
 Eastern Dental Society, 560.  
 Ebersole, W. F., Dentists Appointed as Lecturers on State Board of Health, 71.  
 Editorial: A Million Dollar Debt, 633.  
 A Most Unfortunate Error, 223.  
 Bills Affecting Dentists Enacted by the Last Congress, 310.  
 Professor Black's Views on the Beginnings of Pyorrhea Alveolaris, 467.  
 Conservative Treatment of the Dental Pulp, 221.  
 Co-operation of the State Society Officers Needed in the Reorganization of the National Dental Association, 946.  
 Disclaimer, 876.  
 Dr. Hunter's Address on Oral Sepsis, 869.  
 Navy Bill Favorably Reported, 61.  
 New Constitution for the National Dental Association, 716.  
 Possible Dangers to the Pulp in the Use of Silicate Cements, 544.  
 Public Dental Service for Children, 57.  
 Shall the Dental Profession Become a Trade Union? 384.  
 Testing and Comparing the Product of the Dental Schools, 788.  
 The National Dental Association Votes to Reorganize Along the Lines of the American Medical Association, 711.  
 The Reorganization of the National Dental Association, 144.  
 Education, Useless and Useful, 893.  
 Electricity, 82.  
 Elin, J., Discussion, 940.  
 Elongation of Buccal Teeth in Class II, The, 846.  
 Entrance Requirements, Past and Present, 622.  
 Error, A Most Unfortunate, 223.  
 Ethical Training in Dental Colleges, 595.  
 Evans, W. W., Technical Training of the Dental Student, 268.  
 Examinations of Dentists for the Army, 157.  
 Examinations of the Gingivæ, 432.  
 Exclusive Contributions: A Different View as to the Origin and Treatment of Pyorrhea Alveolaris, 102.  
 A Non-Irritant Substitute for Carbolic Acid in the Treatment of Septic Conditions of the Mouth, 674.  
 A Reply to Dr. Kulka's New Chemical Experimental Studies, 504.  
 Compressed Air, 744.  
 Dental Educational Prognathism, 892.  
 Dental Radiography, 81, 241, 401, 488, 566, 641, 727, 807, 881.  
 Facial Expression from the Point of View of the Artist, 328.  
 Modern Dentistry Really a Painless Science, 8.  
 Technical Training of the Dental Student, 268.  
 The Gold Inlay, 1, 95, 161, 321, 481, 561, 721, 801.  
 Tooth Forms, 168.  
 Unusual Reflex Pains in Nose Troubles, of Interest to Dentists, 676.  
 Expansion Arch, 821.  
 Exposure, Duration of the, 286.  
 Face Bow, Adjusting the, 180.  
 Facial Expression from the Point of View of the Artist, 328.  
 Faculties Association, The Split in the, 894.  
 Ferris, H. C., Discussion, 376, 612.  
 Fifth District Dental Society of the State of New York, 320.  
 Fifth and Sixth District Dental Societies, 880.  
 Film Holder, 291.  
 Film Radiographs, Advantages of, 668.  
 Film, The, 286.  
 Florida State Dental Society, 75, 154, 232, 314, 392, 477.  
 Fluoroscope, Dental, 815.  
 Fones, A. C., Public Dental Service for Children, 68.  
 Foreign Dental Laws, 471.  
 Fowler, Discussion, 940.  
 Fracture and Diastasis of the Upper Bones of the Face from the Skull and the Method of Treatment Employed, The Report of a Case of, 361.  
 Free Clinics, How to Obtain Municipal, 64.  
 Frenum Labium, Abnormal, 299.  
 Fuses, 244.  
 Fusing of Porcelain, The, 868.  
 Gaylord, E. S., Discussion, 531.  
 Generator, The, 282.  
 Georgia Dental Society, 75, 154, 232, 314, 362, 477.  
 German Library, Contributions of Books Requested for, 559.  
 Gingivæ, 422.  
 Gingivæ, Examinations of the, 432.  
 Gingivæ, Injuries to the Septal Tissue and, 427.  
 Gold and Porcelain in Public Clinics, 57.  
 Gold for Casting, 518.  
 Gold Inlays in Gingival Cavities, 2.  
 Gold Inlay, The, 1, 95, 161, 321, 481, 561, 721, 801.  
 Gold Used for Cast Inlays, Quantity of, 635.  
 Gold versus Amalgam, 58.  
 Goslee, H. J., Discussion, 532, 623.  
 Grant, G. F., In Memoriam of, 73.  
 Grieves, C. J., Systematic Pus Poisoning Associated with Diseased Dental Apical Regions, 339.  
 Discussion, 382, 383.  
 Grinding Calculus for Microscopic Study, 440.  
 Gutta, The Use of, 686.  
 Gysi Method of Registration, 187.  
 Hane, C. F. A., Discussion, 708.  
 Harris, H. J., In Memoriam of, 149.  
 Harvard Dental Alumni Association, 79.  
 Haskell Fund, Something About the, 391.  
 Head Radiographs, 286.  
 Hess, S., A Non-Irritant Substitute for Carbolic Acid in the Treatment of Septic Conditions of the Mouth, 674.  
 High Frequency Coil, 261.  
 Hillyer, E., Discussion, 216, 631.  
 Hinman, T. P., Public Dental Service for Children, 68, 533.  
 History of a Case Treated with Antiseptics, 461.  
 History of a Treatment without Antiseptics, 463.  
 Holding Films in the Mouth, Methods of, 659.  
 Holland, F., Dinner to, 234.  
 Holmes, W., Public Dental Service for Children, 62.  
 Discussion, 140, 142.  
 Hood, Construction of, 14.  
 How to Obtain Municipal Free Clinics, 64.  
 Hunt, G. E., Regarding Dental College Work, 586.  
 Discussion, 615, 631, 632.  
 Hunter's (Dr.) Address on Oral Sepsis, 869.  
 Hutchinson, R. G., Jr., Discussion, 604.  
 Hyatt, T. P., Discussion, 696.  
 Ideal School Clinic, 69.



- Illinois State Board of Dental Examiners, 769.  
 Illinois State Dental Society, 75, 154, 232, 314, 317, 392, 558.  
 Impacted Teeth, 60.  
 Implantation and Replantation, 467.  
 Importance of Beveling Margins, 723.  
 Importance of School Inspection, 763.  
 Impression of Cavity, 683.  
 Impression, 175.  
 Improved Porcelain Filling, with Minimized Cement Line, An, 679.  
 Inclined Planes, The Use of in the Correction and Retention of Malocclusion, 21.  
 Inclined Planes in Class III, 31.  
 Inclined Planes, Use of, 23.  
 Incorrect Cavity Preparation, 98.  
 Indiana State Board of Dental Examiners, 79, 400, 879.  
 Indiana State Dental Association, 75, 154, 232, 240, 315, 392, 395.  
 Induction Coil, 242.  
 Infection of Apical Area, 341.  
 Influence of the Forces of Occlusion on the Development of the Bones of the Skull, A Preliminary Study of the, 110.  
 Infra-Occlusion, Cause of Anterior, 900.  
 Ingredients and Effect on Bacteria. Tooth Powders—Their, 331.  
 Injuries Caused by Ligatures, 430, 468.  
 Injuries, Spreading of Disease from, 431.  
 Injuries to the Septal Tissue and Gingivæ, 427.  
 Inlay Principle in Crown Work, 207.  
 Inlay, The Gold, 1, 95, 161, 321, 481, 561, 721, 801.  
 Inlays, Cavity Preparation for, 508.  
 In Memoriam: Allan, G. S., 225.  
   Brown, S. D., 72.  
   Buckwalter, C. L., 640.  
   Byram, J. Q., 639.  
   Grant, G. F., 73.  
   Harris, J. H., 144.  
   Meriam, H., 551.  
   Power, J. E., 720.  
   Robbins, J., 953.  
   Roe, E. F., 954.  
   Reid, H. M., 553.  
   Sanger, R. M., 552.  
   Shepard, L. D., 227.  
   Stockwell, C. T., 950.  
 Institute of Dental Pedagogics, 398, 878, 957.  
 Intensifying Screen, 657.  
 Interesting Case, An, 334.  
 Interpretation of Radiographs, 301.  
 Interrupterless Coil, 266.  
 Interrupters, 245.  
 Introduction of Base-plates in the Mouth, 177.  
 Investment Mixer, 513.  
 Investments for Cast Inlays, 512.  
 Iowa State Board of Dental Examiners, 398.  
 Iowa State Dental Society, 75, 79, 154, 232, 315, 392.  
 Irwin, S., Foreign Dental Laws, 471.  
 Jacket Crown, New Method for Porcelain, 909.  
 Jacket Crown, The Technique of the All Porcelain, 908.  
 Jacket Crowns, Appropriate Places for, 911.  
 Jacket Crowns, Previous Methods of Making, 908.  
 Jones, C. F., Discussion, 141.  
 Junkerman, G. S., Dental Education Progressivism, 892.  
 Kells, Jr., C. E., An Interesting Case, 334.  
   Compressed Air, 744.  
 Kentucky State Dental Association, 76, 155, 233, 315, 318, 393.  
 Ketcham, A. H., The Radiograph in Orthodontia, 281.  
 Kulka, M., The Possible Chemical or Pathological Effects of Cement Fillings, 360.  
 Kulka's New Chemical Experimental Studies, A Reply to Dr., 504.  
 Lake Erie Dental Association, 396.  
 Lane, J. G., Discussion, 537.  
 Lantern Slides, 267, 672.  
 Lateral Alveolar Abscess, 430.  
 Lecturers on State Board of Health, Dentists Appointed as, 71.  
 Leroy, L. C., Discussion, 376, 542, 613.  
 Lewis, W. G., Discussion, 139.  
 Libraries, Dental, 520.  
 Luckey, B. F., Discussion, 941.  
 Ligatures, Injuries Caused by, 430, 468.  
 Ludwig's Angina, 522.  
 Lymphatics, 193.  
 Magnetism, 86.  
 Maine Dental Society, 76, 155, 160, 233, 315, 393, 397, 477.  
 Malformed Bones of the Face as a Cause of Brain Inactivity, 190.  
 Malocclusion in Pyorrhea, 609.  
 Malocclusion, The Cause of Open-Bite, 896.  
 Malocclusion. The Use of the Inclined Planes in the Correction and Retention of, 21.  
 Margins, Importance of Beveling, 723.  
 Margins, Treatment of, 483.  
 Marshall, J. S., The Report of a Case of Fracture and Diastasis of the Upper Bones of the Face from the Skull and the Method of Treatment Employed, 351.  
 Maryland State Board of Dental Examiners, 320, 797.  
 Maryland State Dental Association, 76, 155, 233, 315, 477, 554.  
 Massachusetts Board of Registration in Dentistry, 240, 799.  
 Massachusetts Dental Society, 76, 155, 156, 233, 315, 353.  
 Masticatory Effort and Means of Registration. The Condyle Path. Its Importance as a Factor in, 171.  
 Matrix Material and Remarks Upon the Two Methods of Obtaining Matrices, 864.  
 Medical Education of Dentists, 624.  
 Mental Suggestion, 10.  
 Meriam, H., In Memoriam of, 951.  
 Merritt, A. H., Public Dental Service for Children, 64.  
 Methods of Regulating Vacuum, 406.  
 Meyer, J., Discussion, 218.  
 Michigan State Board of Dental Examiners, 398, 795.  
 Michigan State Dental Society, 76, 155, 233, 315, 393, 477, 554.  
 Midgley, A. L., President's Address, 781.  
 Miller (W. V.), Club of Berlin, 559.  
 Million Dollar Debt, A, 633.  
 Minnesota State Dental Association, 76, 155, 233, 315, 319, 393, 478, 480.  
 Missing Bicuspids, 300.  
 Mississippi Dental Association, 76, 155, 233, 315, 393.  
 Mississippi State Board of Dental Examiners, 399.  
 Missouri State Dental Association, 233, 315, 318, 353, 478.  
 Modern Dentistry Really a Painless Science, 8.  
 Montana State Dental Society, 76, 155, 233, 315, 393, 478.  
 Morrison, N. H., Discussion, 142.  
 Mounting Models on the Occluding Frame, 181.  
 Mouth Breathing, 898.  
 Movement of Diseased Teeth Spread Disease, 431.  
 Movement of Teeth Bodily, The, 307.  
 National Association of Dental Examiners, 479, 781, 799.  
 National Association of Dental Faculties, 480, 794.  
 National Dental Association, 75, 77, 154, 232, 314, 392, 477, 554, 557, 792, 784, 795, 898, 878, 557.  
 National Dental Association Clinics, 316.  
 National Dental Association, Co-operation of the State Society Officers Needed in the Reorganization of the, 946.  
 National Dental Association, New Constitution for the, 716.  
 National Dental Association, Reorganization of the, 144.  
 National Dental Association, Resolution Passed by the, 77.  
 National Dental Association Votes to Reorganize Along the Lines of the American Medical Association, The, 711.  
 National Guard Dentists, 956.  
 Navy Bill Favorably Reported, 61.  
 Naylor, W. F., President's Address, 848.  
 Nebraska State Dental Association, 76, 155, 233, 315, 392.



- Need of Dental Clinics, 771.
- Neuman, D. S., Tooth Powders—Their Ingredients and Effect on Bacteria, 331.
- Neuralgia, 37.
- Neuralgia, Dental Pulp as a Factor in, 42.
- Neuralgia, Tri-facial, 41.
- Neuralgias Caused by Diseased Dental Pulps, 45.
- Neuralgias, Other Causes of Reflex, 50.
- New and Simple Method of Retaining Normal Occlusion, Especially in Reference to Class II (Angle), A, 747.
- New Attachment for Abutments in Bridge-work and Porcelain Crowns or Sectional Crown and Bridgework, A, 271.
- New Constitution for the National Association, 716.
- New Hampshire State Dental Society, 76, 155, 160, 233, 315, 339, 397, 478.
- New Jersey Board of Examiners Resign from the National Association of Dental Examiners, 159.
- New Jersey State Board of Registration and Examination in Dentistry, 399, 797.
- New Jersey State Dental Society, 233, 315, 318, 393, 478, 554, 848, 853, 896, 915, 928.
- New Mexico Dental Society, 76, 155, 233, 315, 393, 478, 554.
- New Orleans College of Dentistry, 158.
- New Process of Filling Teeth with Cast Porcelain Inlays, A, 650.
- New York College of Dentistry—Class of 1885, 160.
- New York College of Dentistry—Class of 1891, 160.
- New York State Board of Health. Action in Regard to Oral Hygiene, 231.
- New York State Dental Society, 233, 240, 315, 393.
- Nies, F. H., An Improved Porcelain Filling, with Minimized Cement Line, 679.
- Discussion, 377, 536, 703, 704, 705.
- Nodine, A. M., Discussion, 377, 631.
- Non-Irritant Substitute for Carbolic Acid in the Treatment of Septic Conditions of the Mouth, A, 674.
- Normal Occlusion, Especially in Reference to Class II (Angle), A New and Simple Method of Retaining, 747.
- North Carolina Dental Society, 76, 155, 233, 315, 393, 396, 478.
- North Carolina State Board of Dental Examiners, 398.
- North Dakota State Dental Society, 76, 155, 233, 315, 320, 393.
- Northeastern Dental Association, 794, 796.
- Northern Illinois Dental Society, 758.
- North Philadelphia Association of Dental Surgeons, 156.
- Nose Troubles, of Interest to Dentists, Unusual Reflex Pains in, 676.
- Objections to Removable Retainers, 751.
- Obtaining of Color Effects, The, 866.
- Occluding Frame, Mounting Models on the, 181.
- Occlusal Surfaces, Restoration of Complete, 322.
- Occlusion on the Development of the Bones of the Skull, A Preliminary Study of the Influence of the Forces of, 110.
- Ohio State Dental Society, 76, 155, 233, 316, 393, 478, 554, 878.
- Ohm, 84.
- Oklahoma State Dental Association, 319.
- Open-Bite Malocclusion, The Cause of, 896.
- Open Letter to My Friends of the Dental Profession, An, 719.
- Oral Hygiene Conference, Call of, 479.
- Oral Hygiene Exhibit, One Hundred Dollars Offered for the Best, 236.
- Oral Hygiene Meeting, Public, 758.
- Oral Hygiene. New York State Board of Health. Action in Regard to, 231.
- Oral Sepsis, Dr. Hunter's Address on, 869.
- Oregon State Dental Association, 76, 155, 234, 316, 393, 478.
- Organization Is Necessary to Ascertain and Safeguard the Common Rights of the Dental Profession, A Permanent Defensive, 387.
- Orthodontia: An Interesting Case, 334.
- A New and Simple Method of Retaining Normal Occlusion, Especially in Reference to Class II (Angle), 747.
- A Preliminary Study of the Influence of the Forces of Occlusion on the Development of the Bones of the Skull, 110.
- Malformed Bones of the Face as a Cause of Brain Inactivity, 190.
- Some Phases of Dynamics and Anchorage in Orthodontia, with Special Reference to Efficiency, 817.
- The Cause of Open-Bite Malocclusion, 896.
- The Elongation of Buccal Teeth in Class II, 846.
- The Movement of Teeth Bodily, 307.
- The Radiograph in Orthodontia, 281.
- The Use of the Inclined Planes in the Correction and Retention of Malocclusion, 21.
- Tooth Powders—Their Ingredients and Effect on Bacteria, 331.
- Orthodontia, The Radiograph in, 281.
- Orthodontia, Things Proved in by Use of the X-Ray, 297.
- Orthodontia, with Special Reference to Efficiency, Some Phases of Dynamics and Anchorage in, 817.
- Orthophosphoric Acid. Solubility of Phosphates, 363.
- Oscillimeter, 493.
- Other Causes of Reflex Neuralgias, 50.
- Ottolengui, R., Discussion, 139, 141, 216, 217, 218, 383, 529, 531, 532, 533, 534, 535, 536, 537, 539, 542, 614, 619, 623, 625, 627, 631, 697.
- Painless Science, Modern Dentistry Really a, 8.
- Pennsylvania Board of Dental Examiners, 397, 880.
- Pennsylvania State Dental Society, 76, 155, 234, 316, 394, 395, 478.
- Pericemental and Septal Abscesses, 609.
- Permanent Defensive Organization Is Necessary to Ascertain and Safeguard the Common Rights of the Dental Profession, A, 387.
- Phagocytosis, 464.
- Phenandyn, 674.
- Phosphoric Acid, 365.
- Physical Care of Children in School, 775.
- Plea for a Return to the Use of the Porcelain Inlay, A, 853.
- Point of View of the Artist, Facial Expression from the, 328.
- Poor Canal Treatment Due to Poor Fees, 381.
- Porcelain Filling, with Minimized Cement Line, An Improved, 679.
- Porcelain Inlay, A Plea for a Return to the Use of the, 853.
- Porcelain Matrix, 685.
- Poses for Large Plate Radiographs, 663.
- Possible Chemical or Pathological Effects of Cement Fillings, The, 360.
- Possible Dangers to the Pulp in the Use of Silicate Cements, 544.
- Posts for Bifurcated Roots, 419.
- Power, J. E., In Memoriam of, 720.
- Preliminary Study of the Forces of Occlusion on the Development of the Bones of the Skull, A, 110.
- Preparation for Retention, 99.
- Preparation of Cavities, 96, 856.
- Preparation of the Root Canal and the Root End, 413.
- President's Address, 781, 848.
- Pressure of the Contact Points of the Teeth Upon Each Other, 426.
- Prognathism, Dental Educational, 892.
- Progress Made by Dental Colleges, 588.
- Proper Vacuum for the Tube, 284.
- Prosthodontia: A New Attachment for Abutments in Bridgework and Porcelain Crowns or Sectional Crown and Bridgework, 271.
- The Technique of the All Porcelain Jacket Crown, 508.
- Telescope Crown, 11, 105, 409.
- The Condyle Path. Its Importance as a Factor in Masticatory Effort and Means of Registration, 171.



- Prothero, J. H., The Condyle Path. Its Importance as a Factor in Masticatory Effort and Means of Registration, 171.  
 Protection to the Operator, 290.  
 Protection to the Patient, 250.  
 Public Clinics, Gold and Porcelain in, 57.  
 Public Dental Service for Children, 57, 62, 64, 68, 71.  
 Public, Educating the, 922.  
 Public Health, Relation Between Teeth and, 761, 764.  
 Public Oral Hygiene Meeting, 758.  
 Public School Clinics, 128.  
 Pullen, H. A., Some Phases of Dynamics and Anchorage in Orthodontia, with Special Reference to Efficiency, 817.  
 Pulp as a Factor in Neuralgia, Dental, 42.  
 Pulp, Conservative Treatment of the Dental, 221.  
 Pulp, Disease of the Dental, 43.  
 Pulp, Extirpation, 46.  
 Pulp, Irritation, 372.  
 Pulp, Possible Dangers to in the Use of Silicate Cements, 544.  
 Pure Gold for Filling Teeth, The Use of, 634.  
 Pus Cases, Treatment of, 465.  
 Pus-pocket Calculus, 436.  
 Pus Retention, 343.  
 Pyorrhea, 51.  
 Pyorrhea Alveolaris, A Different View as to the Origin and Treatment of, 102.  
 Pyorrhea Alveolaris, Beginnings of. Treatment for Prevention, 420.  
 Pyorrhea Alveolaris, Professor Black's Views on the Beginnings of, 467.  
 Pyorrhea a Result of Injury, 605.  
 Pyorrhea, Diet During Treatment of, 103.  
 Pyorrhea Not Entirely Local, 611.  
 Pyorrhea, Starch Poisoning a Cause of, 103.  
 Pyrometers Useless, 701.  
 Quartz Crystals for Retention, 688.  
 Radiograph in Orthodontia, The, 281.  
 Radiographs Made on Paper, 670.  
 Radiographs, Head, 286, 296.  
 Radiographs, Interpretation of, 301.  
 Radiographs, Stereoscopic, 296.  
 Radiography, Dental, 81, 241, 401, 488, 566, 641, 727, 807, 881.  
 Raper, H. R., Dental Radiography, 81, 241, 401, 488, 566, 641, 727, 807, 881.  
 Read, H., Facial Expression from the Point of View of the Artist, 328.  
 Recording the Condyle Path, 182.  
 Rectifier, 251.  
 Reflex Pains in Nose Troubles, of Interest to Dentists, Unusual, 676.  
 Regarding Dental College Work, 586.  
 Registration. The Condyle Path. Its Importance as a Factor in Masticatory Effort and Means of, 171.  
 Reid, H. M., In Memoriam of, 553.  
 Relation Between Teeth and Public Health, 761, 764.  
 Removable Retainers, Objections to, 751.  
 Reorganization of the National Dental Association, The, 144.  
 Reorganization of the National Dental Association, Co-operation of the State Society Officers Needed in the, 946.  
 Reorganization of the State Dental Societies and Some Benefits to Both the Public and the Profession, Better, 915.  
 Replantation, Implantation and, 467.  
 Reply to Dr. Kulka's New Chemical Experimental Studies, A, 504.  
 Report of a Case of Fracture and Diastasis of the Upper Bones of the Face from the Skull and the Method of Treatment Employed, the, 351.  
 Resignation of the New Jersey Board of Examiners from the National Association of Dental Examiners, 159.  
 Resistance Form, 100.  
 Resolutions Passed by the National Dental Association, 77.  
 Restoration of Complete Occlusal Surfaces, 322.  
 Retaining Normal Occlusion, Especially in Reference to Class II (Angle), A New and Simple Method of, 747.  
 Retention, Preparation for, 99.  
 Retention, Quartz Crystals for, 688.  
 Rhein, M. L., Discussion, 379, 382, 388, 541, 608, 627, 628, 629, 632.  
 Rheostat, 253.  
 Rhode Island Board of Registration, 880.  
 Rhode Island Dental Society, 76, 156, 234, 316, 354, 478, 554.  
 Robbins, J., In Memoriam of, 953.  
 Robinson, R. D., The Movement of Teeth Bodily, 307.  
 Roe, E. P., In Memoriam of, 954.  
 Rogers, A. P., The Use of the Inclined Planes in the Correction and Retention of Malocclusion, 21.  
 Root Canal Treatment, 340.  
 Root Cap, 208.  
 Root Converter, 264.  
 Russell, C. N., Conditions Simulating an Alveolar Abscess, 520.  
 St. Louis Society of Dental Science, 158.  
 Sanger, R. M., In Memoriam of, 552.  
 Schoenberg, M. J., Unusual Reflex Pains in Nose Troubles, of Interest to Dentists, 676.  
 School Clinic, The, 136.  
 School Clinic, The Ideal, 69.  
 School Inspection, Importance of, 763.  
 School, Physical Care of Children in, 775.  
 Schreiber, M., A Reply to Dr. Kulka's New Chemical Experimental Studies, 504.  
 Scientific Casting of Gold, The, 607.  
 Scrap Gold Used for Cast Inlays, 634.  
 Second District Dental Society of New York, 37, 48, 339, 376, 420, 529, 586, 603, 614, 679, 696, 758.  
 Septal Abscesses, 428.  
 Septal Tissue, 428.  
 Septal Tissue and Gingivæ, Injuries to the, 427.  
 Serumal Calculus, 436, 443, 605.  
 Shading Cast Porcelain, 695.  
 Shall the Dental Profession Become a Trade Union? 384.  
 Shepard, L. D., In Memoriam of, 227.  
 Should Dentists Be Medically Educated? 598.  
 Silicate Cements, Possible Dangers to the Pulp in the Use of, 544.  
 Simple Tubes, 401.  
 Sinuses, Anatomy of, 191.  
 Sinus Respiration, 151.  
 Sinus Trouble, A Difficult Eruption of the Third Molar Simulating a, 677.  
 Skogsborg, C., A New and Simple Method of Retaining Normal Occlusion, Especially in Reference to Class II (Angle), 747.  
 Smedley, W., Banquet to, 637.  
 Smith, B. H., Discussion, 616, 622, 623, 628, 629.  
 Smith, H. C., Letters Commenting on Dr. Roessler's Paper, 153.  
 Society Announcements: Alabama Dental Association, 75, 154, 232, 314, 392, 395, 477.  
 Alumni Association of Marquette University, Department of Dentistry, 77.  
 Alumni Association of St. Louis Dental College Annual Clinic, 240.  
 Alumni Department, University of California, 796.  
 American Dental Society of Europe, 480, 794.  
 American Society of Orthodontists, 154, 232, 314, 392, 477, 554, 878, 957.  
 Arizona Board of Examiners, 320, 800.  
 Arizona State Dental Society, 79.  
 Arkansas State Board of Dental Examiners, 400.  
 Arkansas State Dental Association, 75, 154, 232, 314, 392, 477.  
 Australian Dental Congress, 957.  
 Banquet Tendered to Dr. L. D. Archibald, 78.  
 Black (G. V.) Dental Club, 78, 157, 879, 959.  
 Bridgeport Dental Society, 560.  
 California State Board of Dental Examiners, 959.  
 California State Dental Association, 75, 154, 232, 314, 392, 396, 477.  
 Call of Oral Hygiene Conference, 479.  
 Canadian Dental Society and Ontario Dental Association, 878, 959.



- Chicago Dental Society, 159, 797, 957.  
 Clinic of Alumni Association of Chicago College of Dental Surgery, 80.  
 Colorado State Dental Association, 75, 154, 232, 314, 392, 477.  
 Connecticut State Dental Association, 75, 154, 232, 240, 314.  
 Connecticut State Dental Commissioners, 796.  
 Contribution of Books Requested for German Library, 559.
- Delaware State Dental Society, 75, 154, 232, 314, 392, 477, 554.  
 Dinner to Dr. Frank Holland, 234.  
 Eastern Dental Society, 560.  
 Examination of Dentists for the Army, 157.  
 Fifth District Dental Society of the State of New York, 320.  
 Fifth and Sixth District Dental Societies, 880.  
 Florida State Dental Society, 75, 154, 232, 314, 352, 477.  
 Georgia Dental Society, 75, 154, 232, 314, 392, 477.  
 Harvard Dental Alumni Association, 79.  
 Illinois State Board of Dental Examiners, 799.  
 Illinois State Dental Society, 75, 154, 232, 314, 317, 392, 558.  
 Indiana State Board of Dental Examiners, 79, 400, 879.  
 Indiana State Dental Association, 75, 154, 232, 340, 315, 392, 395.  
 Institute of Dental Pedagogics, 398, 878, 957.  
 Iowa State Board of Dental Examiners, 398.  
 Iowa State Dental Society, 75, 79, 154, 232, 315, 392.  
 Kentucky State Dental Association, 76, 155, 233, 315, 318, 393.  
 Lake Erie Dental Association, 396.  
 Maine Dental Society, 76, 155, 160, 233, 315, 393, 397, 477.  
 Maryland State Board of Dental Examiners, 320, 797.  
 Maryland State Dental Association, 76, 155, 233, 315, 393, 477, 554.  
 Massachusetts Board of Registration in Dentistry, 240, 759.  
 Massachusetts Dental Society, 76, 155, 156, 233, 315, 393.  
 Michigan State Board of Dental Examiners, 398, 795.  
 Michigan State Dental Society, 76, 155, 233, 315, 393, 477, 554.  
 Miller (W. V.) Club of Berlin, 559.  
 Minnesota State Dental Association, 76, 155, 233, 315, 319, 393, 478, 480.  
 Mississippi Dental Association, 76, 155, 233, 315, 393.  
 Mississippi State Board of Dental Examiners, 399.  
 Missouri State Dental Association, 233, 315, 318, 393, 478.  
 Montana State Dental Society, 76, 155, 233, 315, 393, 478.  
 National Association of Dental Examiners, 479, 799.  
 National Association of Dental Faculties, 480, 754.  
 National Dental Association, 75, 77, 154, 232, 314, 392, 477, 554, 557, 794, 795, 798, 878, 957.  
 National Dental Association Clinics, 316.  
 Nebraska State Dental Society, 76, 155, 233, 315, 393.  
 New Hampshire State Dental Society, 76, 155, 160, 233, 315, 393, 397, 478.  
 New Jersey State Board of Registration and Examination in Dentistry, 399, 757.  
 New Jersey State Dental Society, 233, 315, 318, 353, 394, 478, 554, 928.  
 New Mexico Dental Society, 76, 155, 233, 315, 393, 478, 554.  
 New Orleans College of Dentistry, 158.  
 New York College of Dentistry—Class of 1885, 160.  
 New York College of Dentistry—Class of 1891, 160.
- New York State Dental Society, 233, 240, 315, 393.  
 North Carolina Dental Society, 76, 155, 233, 315, 353, 396, 478.  
 North Carolina State Board of Dental Examiners, 398.  
 North Dakota State Dental Society, 76, 155, 233, 315, 320, 393.  
 Northeastern Dental Association, 794, 796.  
 Northern Illinois Dental Society, 798.  
 North Philadelphia Association of Dental Surgeons, 156.  
 Ohio State Dental Society, 76, 155, 233, 316, 393, 478, 554, 878.  
 Oklahoma State Dental Association, 319.  
 One Hundred Dollars Offered for the Best Oral Hygiene Exhibit, 236.  
 Oregon State Dental Association, 76, 155, 234, 316, 393, 478.  
 Pennsylvania Board of Dental Examiners, 397, 880.  
 Pennsylvania State Dental Society, 76, 155, 234, 316, 354, 396, 478.  
 Resignation of the New Jersey Board of Examiners from the National Association of Dental Examiners, 159.  
 Resolutions Passed by the National Dental Association, 77.  
 Rhode Island Board of Registration, 880.  
 Rhode Island Dental Society, 76, 155, 234, 316, 394, 478, 554.  
 St. Louis Society of Dental Science, 158.  
 Second District Dental Society, 48, 216.  
 South Carolina Dental Association, 76, 155, 234, 316, 319, 394, 478, 554.  
 South Dakota Board of Dental Examiners, 400.  
 South Dakota State Dental Society, 76, 155, 234, 316, 394, 796.  
 Southern Branch of the National Dental Association, 154, 156, 232, 235, 314.  
 Southern Wisconsin Dental Association, 396.  
 Susquehanna Dental Association of Pennsylvania 399.  
 Tennessee Dental Association, 316, 320, 354.  
 Texas State Board of Dental Examiners, 400, 798.  
 Texas State Dental Association, 77, 156, 234, 316, 319, 394.  
 Third, Fourth, Ninth, and Westchester County Dental Societies, 880.  
 Utah State Dental Society, 77, 155, 234, 478.  
 Vermont Board of Dental Examiners, 397.  
 Vermont State Dental Society, 77, 155, 160, 234, 316, 394, 397, 478.  
 Virginia State Dental Association, 234, 316, 318, 394, 478.  
 Washington State Dental Society, 234, 316, 394, 478.  
 West Virginia State Dental Society, 77, 155, 234, 316, 394, 475, 554.  
 Wisconsin Board of Dental Examiners, 397.  
 Wisconsin State Dental Society, 77, 155, 234, 316, 394, 479, 554, 558, 797.
- Society Discussions: Central Dental Association of Northern New Jersey, 138, 705.  
 Second District Dental Society, 49, 216, 376, 529, 604, 614, 696.
- Society Papers: A New Process of Filling Teeth with Cast Porcelain Inlays, 690.  
 An Improved Porcelain Filling, with Minimized Cement Line, 679.  
 A Plea for a Return to the Use of the Porcelain Inlay, 853.  
 Antisepsis, 458.  
 Beginnings of Pyorrhea Alveolaris—Treatment for Prevention, 420.  
 Better Reorganization of State Dental Societies and Some Benefits to Both the Public and the Profession, 915.  
 Calculus. Sertral Calculus—Pus-pocket Calculus, 436.  
 Cleaning Teeth, 456.  
 Conditions Simulating an Alveolar Abscess, 520.  
 Neuralgia, 37.  
 President's Address, 781, 848.  
 Public Oral Hygiene Meeting, 788.  
 Public School Clinics, 128.



- Regarding Dental College Work, 586.  
 Systemic Pus Poisoning Associated with Diseased Dental Apical Regions, 339.  
 The Possible Chemical or Pathological Effects of Cement Fillings, 360.  
 The Report of a Case of Fracture and Diastasis of the Upper Bones of the Face from the Skull and the Method of Treatment Employed, 351.  
 The Scientific Casting of Gold, 507.  
 Soft Tissues to the Teeth, Attachment of the, 423.  
 Solubility of Phosphates. Orthophosphoric Acid, 363.  
 Some Phases of Dynamics and Anchorage in Orthodontia, with Special Reference to Efficiency, 817.  
 Something About the Haskell Fund, 391.  
 South Carolina Dental Association, 76, 155, 234, 316, 319, 394, 478, 544.  
 South Dakota Board of Dental Examiners, 400.  
 South Dakota State Dental Society, 76, 155, 234, 316, 394, 796.  
 Southern Branch of the National Dental Association, 154, 156, 232, 235, 314.  
 Southern Wisconsin Dental Association, 396.  
 Spreading of Disease from Injuries, 431.  
 Spread of Contagious Diseases, The, 762.  
 Squire, D. H., Neuralgia, 37.  
 Discussion, 65.  
 Stallman, G. E., A New Attachment for Abutments in Bridgework and Porcelain Crowns or Sectional Crown and Bridge-work, 271.  
 Starch Poisoning a Cause of Pyorrhea, 103.  
 State Militia Dental Corps, 955.  
 Stereoscopic Radiography, 815.  
 Stereoscopic Radiographs, 296.  
 Stockton, C. S., Discussion, 932, 933, 938.  
 Stockwell, C. T., In Memoriam of, 950.  
 Straussberg, M., The Technique of the All Porcelain Jacket Crown, 908.  
 Discussion, 705, 710, 933.  
 Student, Technical Training of the Dental, 268.  
 Substitute for Carbolic Acid, in the Treatment of Septic Conditions of the Mouth, A Non-Irritant, 673.  
 Suggett, A. H., The Elongation of Buccal Teeth in Class II, 846.  
 Supra-Occlusion of the Molars, 899.  
 Susquehanna Dental Association of Pennsylvania, 359.  
 Sutphen, H. S., Discussion, 934.  
 Swedish Dental Society, 747.  
 Sweeney, A. W., A Tribute to Professor James H. Harris, 149.  
 Switches, 244.  
 Syringe, 457.  
 Systemic Pus Poisoning Associated with Diseased Dental Apical Regions, 339.  
 Taggart, W. H., Clinic—The Cast Gasket Porcelain Crown, 206.  
 The Scientific Casting of Gold, 507.  
 Discussion, 542.  
 Taggart-Boynton Suit Not a Final Test of Taggart's Patents, 229.  
 Tartar Solvents, 607.  
 Teacher of Dentistry, The Qualification of a, 893.  
 Technical Training of the Dental Student, 268.  
 Teeth, Arranging the, 185.  
 Telescope Crown, 11, 105, 409.  
 Tennessee Dental Association, 316, 320, 354.  
 Testing and Comparing the Product of Dental Schools, 788.  
 Texas State Board of Dental Examiners, 400, 798.  
 Texas State Dental Association, 77, 156, 234, 316, 319, 394.  
 Theory of the Usefulness of Antiseptics, 461.  
 Things Proved in Orthodontia by Use of the X-Ray, 297.  
 Third, Fourth, Ninth and Westchester County Dental Societies, 880.  
 Thompson, A. H., An Open Letter to My Friends of the Dental Profession, 719.  
 Tic Douloureux, 49.  
 Time of Exposure, 656.  
 Titration of Phosphoric Acid, 365.  
 Tompkins, H. H., Discussion, 536.  
 Tongue Sucking, 897.  
 Tooth Forms, 168.  
 Tooth Powders—Their Ingredients and Effects on Bacteria, 331.  
 Trade Union? Shall the Dental Profession Become a, 384.  
 Treatment Employed. The Report of a Case of Fracture and Diastasis of the Upper Bones of the Face from the Skull and the Method of, 351.  
 Treatment of Extensive Caries, 187.  
 Treatment of First Stages of Caries, 96.  
 Treatment of Margins, 483.  
 Treatment of Pus Cases, 465.  
 Treatment of Septic Conditions of the Mouth, A Non-Irritant Substitute for Carbolic Acid in the, 674.  
 Tri-facial Nerve, 37.  
 Tri-facial Neuralgia, 41.  
 Tubes, Bi-anodal, 405.  
 Tubes, Simple, 401.  
 Undercutting and Roughening Inlays, 702.  
 Unethical Practitioners Reclaimable, 597.  
 Unusual Reflex Pains in Nose Troubles, of Interest to Dentists, 676.  
 Use of the Inclined Planes in the Correction and Retention of Malocclusion, The, 21.  
 Uses of the X-Ray:  
 1. In Cases of Delayed Eruption to Determine the Presence or Absence of the Unerupted Teeth, 834.  
 2. In Cases Where Deciduous Teeth Are Retained Long After the Time When They Have Been Shed, to Learn if the Succedaneous Teeth Be Present, 887.  
 3. To Learn if the Roots of Children's Teeth Are Fully Formed, 890.  
 4. To Determine Whether a Tooth Be One of the Primary or Secondary Set, 857.  
 Utah State Dental Society, 77, 156, 234, 316, 394, 478.  
 Vacuum, Methods of Regulating, 406.  
 Van Woert, F. T., Discussion, 52, 530, 700.  
 Vaughan, H. S., Discussion, 49, 56.  
 Vermont Board of Dental Examiners, 397.  
 Vermont State Dental Society, 77, 156, 160, 234, 316, 335, 394, 397, 478.  
 Virginia State Dental Association, 234, 316, 318, 394, 478.  
 Voelker, C. C., Discussion, 54.  
 Volt, 84.  
 Waldron, R., Discussion, 142.  
 Walker, F. C., Discussion, 52.  
 Warpage of Matrices, 700.  
 Washington State Dental Society, 234, 316, 394, 478.  
 Watkins, S. C. G., Discussion, 707, 532, 944, 945.  
 Watt, 85.  
 Wax and Its Treatment, 509.  
 Wax, Automatic Apparatus for Burning Out the, 518.  
 Wax, Method of Removing from the Mould, 518.  
 Weinstein, Dr., Discussion, 707.  
 Weinrob, W., Modern Dentistry Really a Painless Science, 8.  
 Welden, F. S., A New Process of Filling Teeth with Cast Porcelain Inlays, 690.  
 Tooth Forms, 168.  
 Discussion, 708, 710.  
 West Virginia State Dental Society, 77, 156, 234, 316, 394, 479, 554.  
 Wiles, R., Taggart-Boynton Suit Not a Final Test of Taggart's Patents, 229.  
 Williams, J. L., Discussion, 217.  
 Wisconsin Board of Dental Examiners, 397.  
 Wisconsin State Dental Society, 77, 156, 234, 316, 394, 475, 554, 797.  
 Woolsey, W., Discussion, 708.  
 Wright, G. M., Malformed Bones of the Face as a Cause of Brain Inactivity, 190.





## The Gold Inlay.\*

BY DR. J. V. CONZETT.

Most operators find that the cavities occurring in the gingival third of molars and bicuspsids are the most difficult cavities to successfully fill, and the choice of a filling material is a most serious consideration. Nearly all of these cavities can be successfully and permanently filled with gold by a man skilled in its use, but to the average man a cavity in the gingival region of a second molar is not an easy problem. The necessity of using a clamp to force the gum back and hold the rubber dam in place, causing the patient a great deal of annoyance and frequently excruciating pain, is another serious reason for the hesitancy of the average man towards using gold foil to fill this class of cavities. So, in far too many cases we find that amalgam has been the material that has been used.

In its place amalgam is a good material, and **Amalgam.** has saved countless thousands of teeth that would otherwise have been sacrificed to the forceps but for its use. So I would not say a word against its use in the proper places if used in the proper manner; but cavities in the gingival region do not lend themselves well to the methods that are imperative in the making of a good amalgam filling. In order to make a filling of amalgam that will have the proper density and be perfectly adapted to the walls of the cavity, we must have a box-shaped cavity with the four walls intact. If

---

\*Copyright, 1911, by J. V. Konzett.



## ITEMS OF INTEREST

one, or more, of the walls of a cavity that is to be filled with amalgam is missing, the wall, or walls, must be reproduced by the aid of a matrix. It is true that cavities in the gingival region have four walls as a rule, but they are so shallow that pressure of the instrument on one part of the filling will cause the amalgam at another part of the cavity to draw away from the walls, or margins, making it exceedingly difficult, if not impossible, to make an amalgam filling in this class of cavities that hermetically seals the tooth. If the reader will observe, he will see the fillings that come to him in cavities filled in this way, have drawn away from the margins in many cases, and in a large percentage of the cases he will find a recurrence of decay around old amalgam fillings in the gingival surfaces of teeth. This is due to the fact that there has been an imperfect adaptation of the material to the walls of the cavity. Let me repeat that which I have said on a former occasion. I believe that amalgam is the poorest material that we can use in this class of cavities.

If gold foil is difficult to use, and its use in this position is attended with pain and extreme discomfort to the patient, though granting its value as a tooth saver in the hands of the man that can properly use it, what is the material and the method that is indicated in these positions?

### **Gold Inlays in Gingival Cavities.**

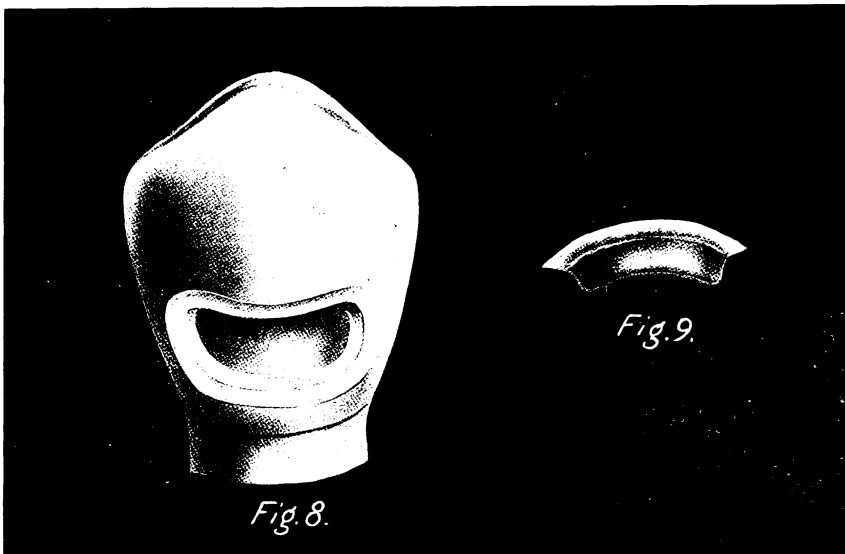
I believe that the gold inlay is pre-eminently the filling for all cavities occurring in the gingival third of all of the teeth back of the first, or possibly the second bicuspid. Porcelain may be indicated in some teeth for esthetic reasons, in front of the molars, and if not, most men will be able to perfectly fill with gold foil all cavities occurring in this surface when presenting in front of the bicuspids. The reason for my advocacy of the gold inlay in this position is the comparative ease of insertion for both operator and patient, and the splendid results that follow the carefully made gold inlay in these positions.

We find the beginnings of decay manifesting along the gingival margins of the teeth in the mouths of the highly susceptible, in a white line of decalcification. If we find these lines before penetration of the enamel has taken place, much can be accomplished in the way of the prevention of the decay by the institution of the system of prophylaxis, and a thorough co-operation upon the part of the patient. For there is no surface of the teeth that is more easily kept clean, and any considerable decay in this territory is *prima facie* evidence that sufficient care is not given to the toilet of the mouth. In all such cases the dentist should instruct the patient in the cause of caries, attempting to impress the fact upon his mind that if the bacterial plaques are kept off of the teeth, decay cannot take place. If, however, there has been a penetration of the enamel, it will be necessary to cut out the decay and fill.



**Preparation  
of Gingival  
Cavities.**

We will find that extension for prevention is as necessary in this surface as in any other, and knowing the susceptible and the immune areas of the tooth we will know just where to lay the margins of our cavity. The cavity must be extended mesially, and distally, to the angles of the tooth; gingivally, until the margin will lay under the free margin of the gum, and occlusally, until it reaches so far on the curvature of the tooth that the margin will lay in territory that is kept clean in the excursion of the food over it in the act of mastication.

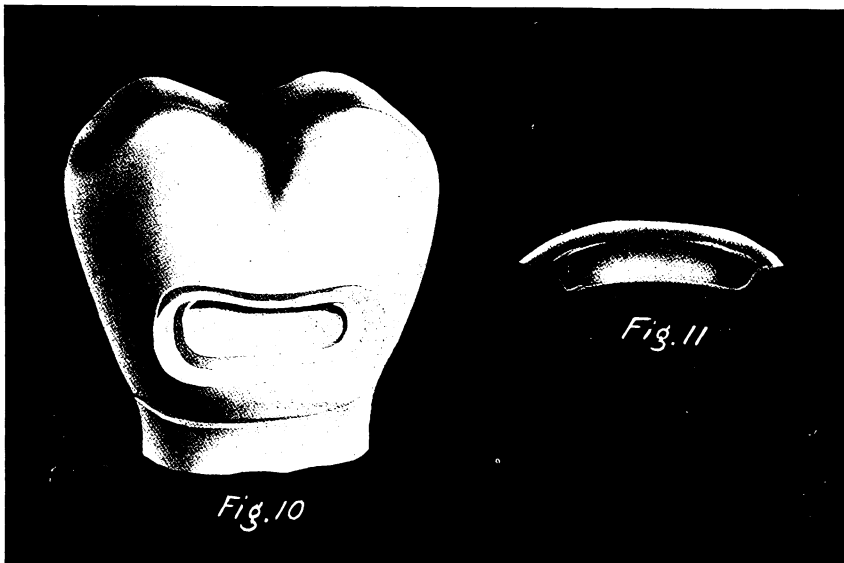


This is different in different teeth, for all teeth have not the same occluso-gingival curvature. In teeth with a great curvature the extension must be greater than in flat teeth that have little curvature in this direction. The large bell-shaped teeth are the ones that will require the most extension, while the square flat teeth will need the least, in fact, these teeth are the ones that rarely suffer from the ravages of caries at the gingival region, and the reason is an obvious one, *i.e.*, the fact that the shape of the tooth is such that these surfaces are habitually kept clean by the frictional action of the food in mastication. Observation will teach us that the teeth that show the greatest susceptibility are the ones that require the greatest extension for the prevention of a recurrence of caries around the filling that we are about to make. Again, heed the oft-expressed injunction, "study conditions."



## ITEMS OF INTEREST

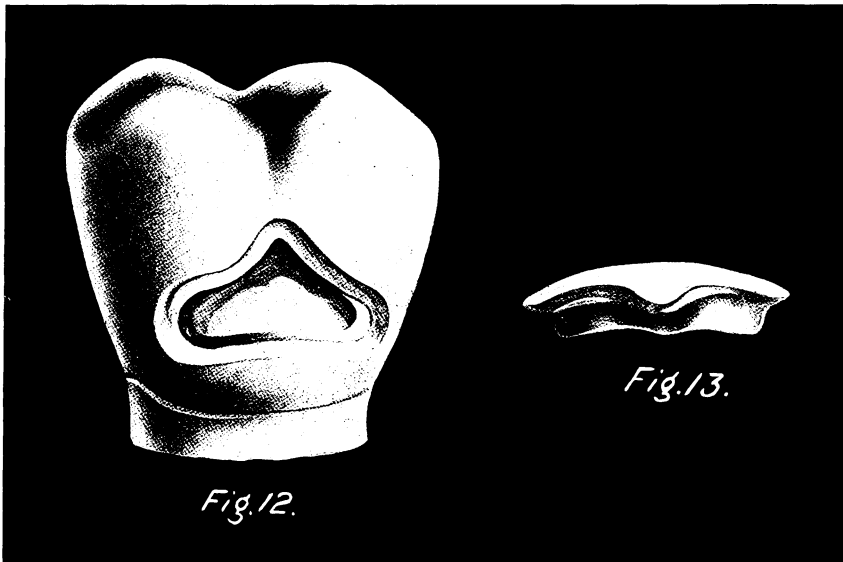
Inasmuch as there is practically no stress that falls upon a filling placed in the gingival surface of a tooth, there is little or no need of a resistance form for the cavity; the retentive form will be all that is necessary to meet the requirements of retention and resistance to displacement stress. The cavity can best be opened up with a fissure bur, one of the cross-cut variety preferably. The bur may be placed in the point of penetration, which is usually toward the center of the tooth, and then the instrument can follow the curvature of the gum margin, cutting toward the mesial and the distal angles until the angles in both directions have



been reached, when the enamel can be chipped away with a chisel until the outline form of the cavity has been produced. The floor, or seat of the cavity, can now be made with an inverted cone bur of as large a size as the cavity will permit. It is a mistake to use too small a bur to make the seat of a cavity, for a small bur will have to traverse the seat again and again to obtain the result that a single sweep of a large sharp bur will accomplish far more quickly, less painfully and infinitely better. The walls of the cavity may now be squared up with a fissure bur, care being taken to have the walls as nearly at right angles to the floor of the cavity as possible. This is one of the most important, if not *the* most important step in the preparation of the cavity to retain an inlay. For obvious reasons the cavity cannot be undercut, so the bur must not be held in such a manner that the cavity will be given a retentive form that will



prevent the withdrawal of the wax pattern and the insertion of the inlay, and the other extreme, of so holding the bur that a conical shape will be given to the cavity, will seriously militate against the retention of the inlay after it is placed. The ideal of the box-shaped cavity with flat seat and parallel walls should always be aimed at, and this ideal should never be forgotten in the preparation of any cavity for the reception of an inlay. In Fig. 8 we have a cavity that has been prepared in the gingival surface of a bicuspid. Notice the flat seat, the parallel walls and the extension of the cavity in all directions. Any less extension than this must be at



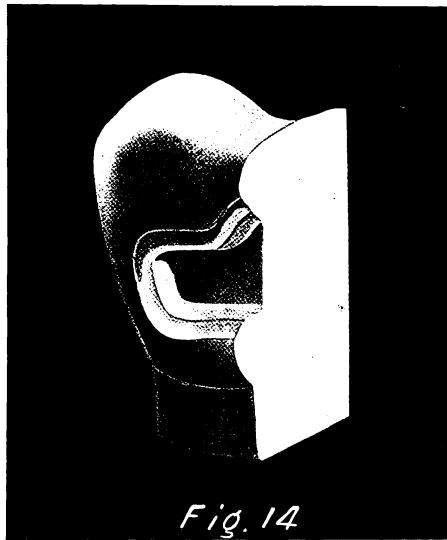
the expense of a liability to a recurrence of decay at some period of stress. The argument has been made that in these positions, where it is possible to keep the margins of the cavity clean by a careful prophylaxis, it is not necessary to so strictly carry out the doctrine of extension for prevention, and I willingly admit the force of the argument, if you can be sure that you will always have the opportunity to keep that mouth in a state of prophylactic health, or if you are certain that the patient, who so neglected the teeth that the first decay was possible, has been so thoroughly converted that she will, in the future, make a repetition of this condition impossible. If so, and you and she are willing to take the chances, do so; but if not, and you wish to avoid all possibility of a future recurrence of decay around the margins of the filling, be sure to observe the laws pertaining to extension for prevention.



## ITEMS OF INTEREST

Fig. 9 is the inlay that has been made to fit the cavity in the tooth illustrated in Fig. 8. A study of the model will aid in comprehending the various points brought out in the described cavity preparation.

In Fig. 10 we have a cavity of the same class in the gingival surface of a molar. There is practically no difference in the treatment of these cavities whether occurring in a molar or a bicuspid. A straight bur should be used whenever possible, and that is always the case in a bicuspid, but in a cavity in the gingival region of a molar it will frequently be advantageous to use a right angle bur in the right angle hand piece.



Other than this the treatment for both cavities will be the same. In Fig. 11 is illustrated the inlay made to fit the cavity in model, Fig. 10.

Frequently we will find that the pit in the buccal surface of a lower molar is involved at the same time that the cavity in the gingival region of the same tooth presents for treatment. In such a case it is usually advisable to treat the two cavities as one, and cut from the gingival cavity into the cavity in the buccal pit. The preparation is illustrated in Fig. 12. The cavity in regard to the outline form, resistance and retentive forms, in the gingival aspect, is the same as for the uncomplicated cavity in the gingival surface of the same tooth. The difference in the treatment is only that of extending the gingival cavity towards the pit; extending the cavity in the pit as though it were an uncomplicated cavity in that location; the joining of the two preparations will make the cavity as illustrated. Fig 13 illustrates the inlay made for such a cavity.



Fig. 14 is a cross section of a cavity in the bucco-gingival surface of a lower molar, and shows the flat seat, which in this case is the axial wall; the parallel walls, on the occlusal and gingival aspects of the model, and also shows the preparation of the cavo-surface angle in cross section.

**Treatment of  
Cavo-Surface  
Angle.**

The preparation of the cavo-surface angle will need a little emphasis, for on the buccal and labial surfaces of the teeth we will find that the behavior of the enamel rods demands our careful attention.

Fig. 15 is a diagrammatic view of the enamel

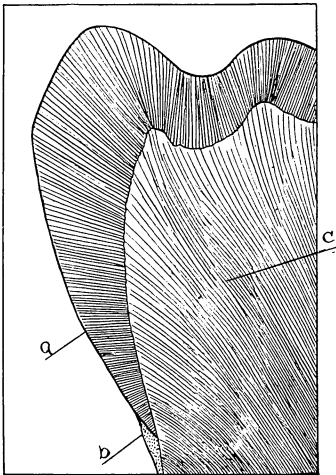


Fig. 15.

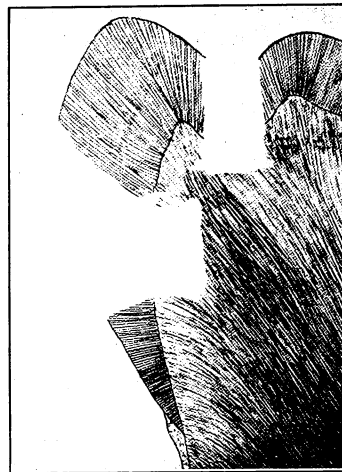


Fig. 16.

walls of a molar viewed from the buccal surface. We will notice that the rods at the gingival surface are inclined toward the root of the tooth, viewed from the dentine outwardly. As we approach the middle-third of the tooth the rods straighten up, until at the middle-third they are about at right angles with the dentine. As we approach the cusp of the tooth the rods take the other direction and now point towards the occlusal surface, where they follow the curve of the cusp and straighten up on the occlusal surface, when they again incline toward the fissure, and take a decided dip into the fissure from both sides of the tooth.

A study of this illustration will show the necessity of beveling the cavo-surface angle as indicated in the illustrations, for, if the cavo-surface angle at the gingival margin at "a" were cut straight across, it will be seen that a large number of short rods would be left unprotected, and, as a consequence, would, in time, fall out and leave a vulnerable spot in the tooth.



## ITEMS OF INTEREST

Fig. 16 is a reproduction of a micro-photograph of a bicuspid, made by Dr. Fred B. Noyes, and used with his permission. In the cavity in the gingival surface we will notice that the enamel is so beveled that all of the rods that are exposed to the surface reach to the dentine; that is, there are no short enamel rods that are left unprotected by the filling material in the completed filling.

The preparation of the cavo-surface angle is the last thing that is done to the cavity preparatory to making the toilet of the cavity and filling the same. It is made with a sharp chisel or hoe, if in a position to be easily reached by them, if not, then one of the variously shaped marginal trimmers is used. I believe that in the inlay the margin should be decided and of sufficient determination to give to the gold in the finished inlay a generous amount of substance, that it may be strong enough to bear any stress that may be brought upon it without changing shape, and that it may be burnished to perfect contact with the tooth after cementation.

---

### Modern Dentistry Really a Painless Science.

BY DR. MARCUS WEINTROB, Atlantic City, N. J.

We all know that nine-tenths of life's make-up consists of a vale of misery and sufferings, of disease and torture, pain and tribulations, and, as Elbert Hubbard says: "Life is just one damn thing after another," and no pessimism meant at all. The so-called pleasures and happiness constitute the other tenth. Not one day of all the years of experience is entirely free from suffering; not one moment but some form of misery is being enacted on this earth of ours, with some burden of sorrow to bear in some place or other.

There is not a spot on this earth but that some form of wasting disease is attacking and destroying plant or animal life, or mankind. Perhaps this world was conceived in misery, perhaps not, who knows? Some say that civilization multiplies our misfortunes—I say no—for listen to this ancient conception of life:

"They mourned the new-born child of Earth  
Embarking on life's stormy sea,  
But hailed its death with joy and mirth,  
Releasing it from misery."

If misery is such a vital fact, and you cannot conscientiously contradict it, it devolves upon each and every one of us to strive to the utmost in order to alleviate some of the pain and misery brought to our eyes and other senses every day.



To those who believe in preordination, I say you are preordained to the most exalted vocation of all; and to those who believe in "free will," I say that your wills have chosen the summit of good, because no other ill of human flesh is as ravaging as dental disease. Think of any other disease that is so relentless in its attacks upon the face as is this. From the cradle to the grave, dental disturbances are manifested in one form or another; it has no pity for young or old. Like Death, it is no respecter of persons.

There is no person who has ever presented himself for dental work without experiencing expectations of intense agony. Yet why should that condition exist? Has not dentistry advanced far enough to put more confidence in the heart and mind of those who come to the dentist for relief? Do you not think that those unfortunates who were made to "walk the plank" by the pirates of old walked with less fear than some who to-day walk to our modern dentists?

Why should this be? We hear members of the profession expand themselves to the limit on how to make an ideal gold inlay, or a beautiful piece of bridgework; or on the chemistry of metals; we read voluminous articles in the dental magazines on how to perfect a full denture, its dimensions, articulations, its almost microscopic deviation from the normal. Men of the profession are expending energy and vitality in telling us how many hair-breadths an alloy or amalgam expands or contracts, and not a thing do they say of cultivating more knowledge of how to give less pain; how to eradicate the monster, fear, now and for all time.

If only we made an effort to cultivate that God-given gift of tenderness which is at every one's command! The mind, the soul, the subjective self—call it what you will—would respond to our call more swiftly than the electric current to the press of a button. The removal of that deadly fear which seizes the patient's mind at sight of the dental chair would inaugurate an era of as much benefit to humanity as the invention of anesthetics.

I am not trying to inculcate Christian Science in the gentle art of dentistry, but as a matter of fact, we little imagine the immense advantage of the subjective mind in its operations. We tell our patients, in a sort of lukewarm manner that "It won't hurt," and let it go at that, as if 'twere enough to carry them through all mental and physical agony. As long as we content ourselves with that form of easing our patients' uneasiness, so long will they hold dreadful visions of the dental chair.

Think of it! If pain can be driven away by fear of the forceps, does not that argue that it can be driven away by other means? I repeat—if fear has such power over the nervous system as to stop pain, why can we not so master our minds as to control the minds of the patients, and



## ITEMS OF INTEREST

make them comfortable mentally? We have done something, no doubt, along practical lines to ease pain, but we have not even begun on the mental aspect of the matter. If you ask me for an explanation of this subjective phase, you place yourself in the position of the atheist who demands that if a Deity exists, He should be shown to him. He takes nothing on trust, his physical eye must see in order to believe.

### **Mental Suggestion.**

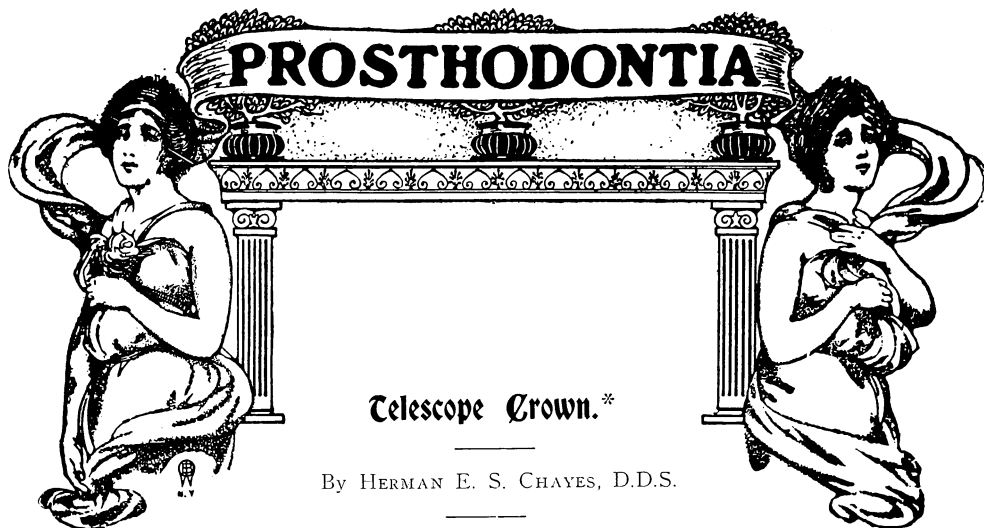
Fellow workers, if we wish to do good in our chosen profession, we must cultivate the proper mental suggestion. In fact, we must make an art of expression in order to soothe the sufferer's mind, so that he will come to us a second time with less expectation of pain and less dread of our instruments. Again let me say, I am not advocating Svengali movements as a necessary dental adjunct; it is the ordinary human sympathy for suffering which the dentist should possess, broad humanitarianism added to his scientific training, which will give him the ability to understand the mental horror of his patient, and the desire to relieve it by his intelligent, sympathetic attitude.

I am not saying this to those who are so unfortunate as to care only for the select few, but to those who come in contact with the many, the multitudes who need our care and tenderest treatment, to whom our ministrations may be a blessing. We always have with us the hard-worked man who hurries into his clothes in the morning, devours some breakfast, attends to minor duties, and hurries hastily off to his work. To him sixty seconds are an immensity, they mean being on time or being late, and that is a vital point in the laboring man's life. And the same facts apply to the woman, the mother whose morning hours are still more strenuous and exerting with the manifold duties of a large household, and the problems of food and clothing. And these things lead to neglect of the mouth with its consequent sufferings and pain.

Find no fault, then, friends, with these people who come to you so tremblingly and fearfully—find no fault with them if the unhygienic condition of their mouths shocks you—for you do not know the miseries and hardships of their lives. Rather be lenient with them, alleviate their sufferings; they need sympathy as much as they need treatment. Banish that almost insurmountable apprehension of pain to be inflicted; endeavor to remove the fear resulting from mental darkness.

Let some ray of light, emanating from your more enlightened spirit that has reached out into higher spheres of thought by contact with better associations in your educational and professional career, dispel that fear which the ordinary man has associated with our profession. And unto the least of us will come the reward of devotion and duty.





So many have asked for a further elucidation of the geometric chart (Chart A) of the construction of the metallic molar crown that the editor has deemed it advisable to republish it in the present article with an additional diagram (Chart B) in order to indicate a definite method of determining the approximal contact points of the molars, or rather the contour of the molars, mesio-distally when adjoining teeth are missing.

The figures enclosed by the letters B. C. E. F. and K. N. O. P. (Chart B) show two central tubes of two adjoining teeth as they should appear when dressed down to receive crowns. The mesio-proximal triangle E. L. F. of the posterior tooth, dips, or extends into the disto-proximal triangle K. M. N. of the anterior tooth in such a manner that a quadrilateral figure I. M. J. L. is formed. If a perpendicular line H. G. is dropped between the two crowns, it will bisect this quadrilateral figure and will also be tangent to the two arcs U. V. and S. T., both arcs being parts of two circles, the centres of which lie externally to the two teeth involved.

In Chart A, Fig. 3, within the two triangles X. Y. Z. is seen a dotted line indicating the approximal contour of a molar tooth, and by studying the above explanation of Chart B the reader will know how to determine the extent to which this approximal contour line should lie within the triangle at the point of approximal contact.

Under the classification, metallic crowns, is to be included the "telescopic" which, as the name implies, simply means a double crown. The purpose of such a crown is to gain an abutment of the greatest possible contact surface and have it removable at the same time. The

**Telescope  
Crown.**

\*Copyright, 1911, by Herman E. S. Chayes.



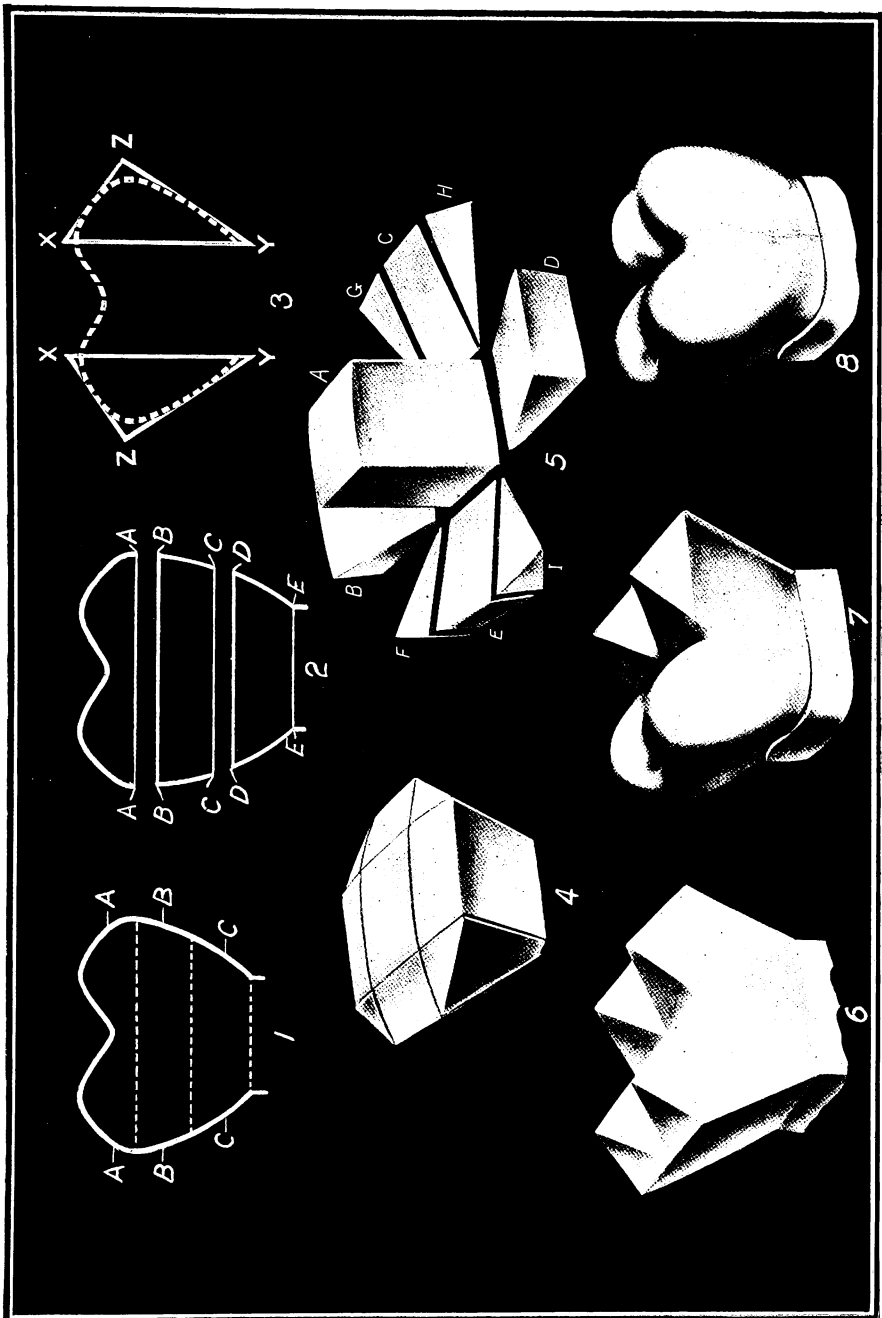


CHART A.



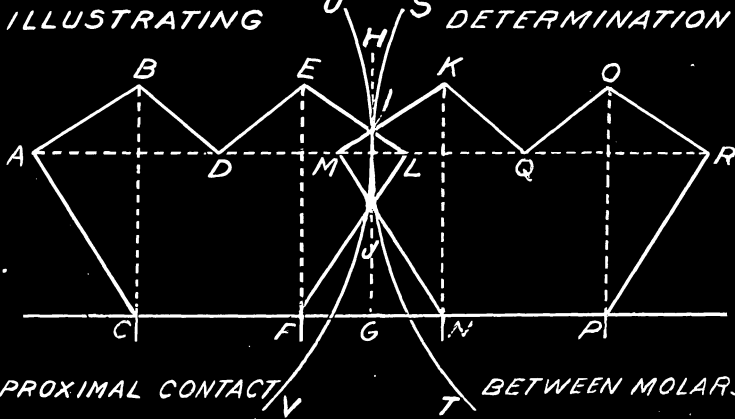


CHART B.

### Explanation of Chart H.

Fig. 1. Molar crown divided horizontally into thirds.

- A.A. Morsal third.  
B.B. Middle third.  
C.C. Gingival third.

Fig. 2. Same, with thirds separated.

- A.A. Gingival plane of morsal third.
- B.B. Morsal plane of middle third.
- C.C. Gingival plane of middle third.
- D.D. Morsal plane of gingival third.
- E.E. Gingival plane of gingival third.

Fig. 3. Geometric construction of contours of molars.

A line drawn from highest eminence of cusp, to a point on the circumference of the tooth at its neck (X.Y.), becomes the hypotenuse of a right-angled triangle (X.Y.Z.), the right angle of which will lie opposite the gingival plane of the morsal third. X.Y.Z., the right-angled triangle. X.Y., the hypotenuse. X.Z., base of triangle. Z.Y., altitude of triangle.

Fig. 4. Geometric solid figure, properly triangulated, from which molar crown may be carved.

Fig. 5. Same with component sections separated.

A. Central rectangular pillar. B. Mesial wedge-shaped section. C. Lingual wedge. D. Distal wedge. E. Buccal wedge. F. Mesio-buccal angle section. Triangular pyramid inverted. G. Mesio-lingual pyramid. H. Disto-lingual pyramid. I. Disto-buccal-pyramid.

Fig. 6. Geometric figure, showing second stage of carving molar crown, the cusps appearing as quadrangular pyramids.

Fig. 7. Third stage. One-half of crown carved out.

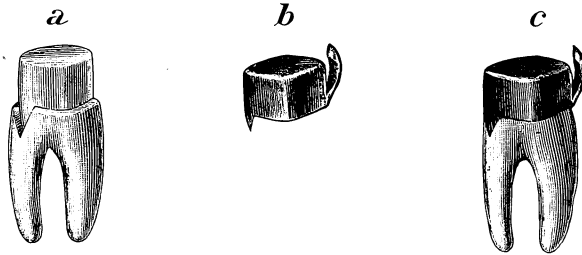
Fig. 8. Crown completed.



## ITEMS OF INTEREST

proper construction of a telescopic crown involves a difficult operative procedure and calls for the exercise of great skill and patient application on the part of the operator.

Since we are building so carefully and rearing a foundation so firm in the matter of its geometric construction and in the truth of its correct physical principles, we are compelled to face the fact that as far as we have been able to ascertain, the text-book expounded telescopic crown falls absolutely short of being correct in scientific or artistic construction.



*Fig. 1.*

### **Preparation of Tooth.**

The preparation of a tooth for the reception of the telescopic crown is similar to the preparation of a tooth for the reception of an ordinary metallic crown, only in this respect, that in both instances is the extirpation of the pulp imperative; in both instances the vertical walls of the tooth must be dressed down until each line within these walls is at right angles to some point of the gingival plane of the gingival third of the tooth, while the morsal surface is ground down to the middle plane of the middle third.

The free margin of the gingival border is now retracted and the sub-gingival area exposed. With the aid of inverted cone burs held in the right angle or contra-angle handpiece, a shoulder is cut all around upon the sub-gingival circumference; the inverted cone bur is followed by the butt end enamel finishing bur, subsequently by chisels and finally by small stones and sandpaper disks. The shoulder is made one thirty-second of an inch deep and the dressing down is continued until the sub-gingival plane of the sub-gingival border is one thirty-second of an inch larger in circumference than any part of the tooth projecting into the oral cavity. (Fig. 1a.)

### **Construction of Hood.**

In order to insure correct manipulation, the shoulder is allowed to dip downward upon the mesio-facial side, in a V-shaped manner. A band of 38-gauge platinum is fitted around the stump. The



## PROSTHODONTIA

proper length of the metal required is ascertained first by taking a wire measurement around the middle plane of the middle third of the tooth. With a pair of compasses the height of the tooth is then taken, from the extreme depth of the V-shaped dip to the middle plane of the middle third, and the width of metal required is marked off upon the plate. The collar is then soldered with 25 per cent platinum solder; it is fitted upon the stump as far down as the shoulder, properly trimmed to fit into the V-shaped dip, while the flare of the shoulder is entirely disregarded. When the fitting of the collar has been completed, the flat top is soldered on to it with 20 per cent. platinum solder, thus converting it into a hood. The surplus, if any, must be trimmed off and the hood is tried upon the tooth. If found to fit perfectly, it is removed and dried with the hot air syringe; a layer of inlay wax is put all over the hood by grasping the same with a pair of tweezers and heating it slightly in the Bunsen or alcohol flame. It is then allowed to sink into a flat button of inlay pattern wax, somewhat larger in circumference than the top of the hood. With a hot spatula the wax is led down upon the collar of the hood until every portion is covered. The hood is replaced upon the tooth and the wax upon it is chilled with an ice-water spray. With the proper carvers all overhanging wax is removed, until the collar assumes the same circumference as the sub-gingival plane of the sub-gingival border of the tooth, and the shoulder is thus obliterated. It will be remembered that the morsal third, as well as the morsal half of the middle third, was removed from the tooth; the wax is now carved upon the morsal surface of the hood until all but that part which replaces the morsal half of the middle third has been removed. This waxed hood, which adds one thirty-second of an inch in thickness or depth to every wall or surface of the tooth, and which also restores the ground-down morsal half of the middle third, dips down into the V-shaped space and fixes itself unmistakably upon the stump. It is now chilled with an ice-water spray and removed from the mouth. It is dried with a blast of cold air, and the sprue former is attached to it by heating the latter slightly; it is put upon the sprue former and subsequently invested and cast. Bear in mind the fact that the shoulder of one thirty-second of an inch in depth has been cut down upon the tooth sub-gingivally. The cast hood, after being properly polished with fine cuttlefish disks and subsequently with crocus disks, will fill out this shoulder, so that there will be an unbroken continuity of surface between the tooth and the hood, and there is absolutely no chance for any irritation to occur at the junction of the morsal plane of the gingival shoulder and the gingival circumference of the hood. (Fig. 1, b and c.)

The operation above described requires careful operative procedure, and is a task which involves, at the very least, four sittings of the patient;



## ITEMS OF INTEREST

one for the extirpation of the pulp under cataphoresis, pressure anæsthesia, or nitrous oxide; a second sitting for the proper cleansing, sterilizing and filling of the root canals of the tooth. It is, of course, understood that in both of these sittings the tooth to be worked upon must be isolated by means of the rubber dam. A third sitting is for the proper preparation of the tooth, whereupon the hood may be fitted and waxed; and at the fourth sitting, the hood, having been polished, is tried upon the tooth, and the first step is taken to make it serve for support and lock of the female part of the telescope crown. After the tooth has been properly prepared and the hood fitted, precautions must be taken to keep the free gingival border from growing over and submerging, as it were, the prepared sub-gingival shoulder, and this is best accomplished in the following manner:

### **Protection of Root End Between Sittings.**

The clamp is adjusted upon the tooth posterior to the one prepared, if any be present, and if there be none, the clamp must be dispensed with. With the aid of cotton rolls and saliva ejector, the mouth is kept dry and a piece of floss silk is swung around the tooth, the loose ends of the silk extending to the outside of the mouth within easy reach of the operator; gutta percha base plate, cut into pieces, which are a fraction larger than the respective walls of the tooth, is heated in the alcohol flame and placed upon the tooth after the same has been somewhat moistened with Eucalyptol-compound (Lilly) one layer at a time upon each wall. When the thickness of these walls has been materially increased by the addition of these gutta percha plates, the loose ends of the floss silk are tied and brought to bear upon the gutta percha with enough force to cause the silk to be imbedded within the material. The pressure of warm ball burnishers will cause the as yet soft gutta percha to reach every part of the sub-gingival shoulder, and will also keep all gum structure at a respectful distance from the field of operation.

As remarked above, the fourth sitting is devoted to the trying in of the hood, the proper dressing down of all walls so that, as indicated, the continuity between the tooth and metal will remain unbroken. A line is marked off upon the hood to correspond with the eminence of the gingiva. A platinum collar is fitted upon the hood and is allowed to reach the mark around the gingival border of it at every point, except diagonally opposite the V-shaped dip, where the female collar is allowed to reach one sixteenth of an inch within the mark mentioned.

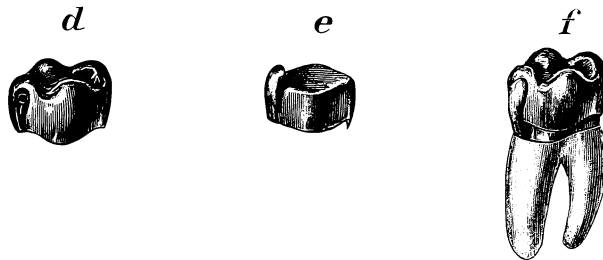
### **Construction of Morsal Half of Crown.**

The ends of the female collar are joined with the 25 per cent. platinum solder, and the flat top is fixed upon it with the 20 per cent. platinum alloy. The surplus is trimmed and the hood is grasped with



# PROSTHODONTIA

a pair of tweezers and allowed to become attached to a flat button of inlay wax. The wax covered hood is now held in proximity to the alcohol flame until the wax has been materially softened; it is then placed upon the tooth and the patient is directed to bring the upper and lower teeth into proper relation and to triturate until the normal occlusion has been obtained. A spray of ice-water chills the waxed hood, which is now removed from the mouth. With a hot spatula the wax is now led down along the walls of the platinum hood until it extends to the very edge of it; then, according to the geometrical rules outlined in the previ-



*Fig. 2.*

ous section of this series, the crown is built up in the wax, remembering first that its greatest circumference must be at the gingival plane of the morsal third, and this circumference is obtained by taking the highest points of the morsal eminences marked out upon the wax by the triturating patient, and allowing the base of a right angled triangle to descend from any one of those high points to meet the line of altitude of the same right angled triangle rising from some point of the gingival circumference, at the gingival third, while the hypothenuse is formed by a line descending from the highest morsal eminence to the same point upon the gingival circumference. With a suitable instrument the carving is now completed, and the sharp angles are removed to give way to the curved lines of beauty. (Fig. 2, d.) It is advisable to immerse the crown in ice water at various times during the processes of carving, since it is easiest to carve the wax when it is most rigid. With a piece of linen dipped in alcohol, the wax crown is polished and chilled, when it is again tried in the mouth. If found to be satisfactory it is removed and again subjected to an ice water bath.

## **Construction of Locking Mechanism.**

Upon that part of the gingival surface, diagonally opposite the V-shaped dip upon the mesio-facial one and parallel to a line perpendicular to its vertex, a depression, saucer-shaped at the morsal end, is carved into the wax crown (Fig. 2, d), to receive a



## ITEMS OF INTEREST

metallic finger, button-shaped at its morsal end, and rising at right angles from the mark upon the circumference of the male hood, and to be attached thereto by means of a piece of 22-carat gold (Fig. 2, e). The depression carved into the wax crown is to be two-thirds of the width of the disto-lingual cusp, and is to extend downward or upward, as the case may be, the full length of the wall at that point. It is to be carved with the walls gradually sloping toward the center, and the morsal center of the disto-lingual cusp.

The wax crown, now complete as to carving, is attached to the sprue former, mounted upon the crucible former, invested and cast. An alloy of pure gold and 7 per cent. platinum is used for the crown casting. One ounce of this alloy consists of  $411\frac{1}{2}$  grains of pure gold and  $68\frac{1}{2}$  grains of pure platinum, the latter rolled exceedingly thin and cut into narrow strips which are gradually fed into the boiling gold.

The crown is finished with cuttlefish disks and placed upon the tooth. (Fig. 2, f.) An impression is taken and a model obtained with the male hood carrying the crown, in position. The crown, plus hood, now filled with plaster, is cut free from the model and is imbedded in modeling compound carried in a small swedging cup. Care must be taken to allow the carved part of the crown to remain clear of the compound, so that we will have a safety margin of at least one sixteenth of an inch on either side of the carved portion, in order to insure a clean contact surface for the metallic finger to be made to fit the depression in the crown.

A piece of 38-gauge platinum one fourth of an inch wide and about one eighth of an inch longer than the crown is now placed upon and over the exposed portion of it, and with a ball burnisher the platinum is carefully guided into the carved depression. The whole is then covered with a round piece of rubber dam, and the swedging cup is then allowed to enter the metal ring which also carries the plunger half filled with modeling clay. A few smart blows upon the head of the plunger, and the swedging cup is removed to disclose a perfect matrix resting in the carved depression of the crown.

The matrix is removed and the portion overhanging the edges of the depression are painted with graphite, or whiting and alcohol, while the matrix proper is filled with clasp metal, which is made according to the following proportions: To 440 grains of Williams's clasp gold, which has been kept at a boil in a carbon crucible, 40 grains of platinum are added in the same manner as before described, with the exception that no nitrous oxide flame is used. The reason for this is the destructive effect which the flame has upon the copper contained in commercial clasp metal. It is a curious fact, but nevertheless a fact that, while the nitrous oxide flame has a destructive effect upon the commercial clasp metal, it is in no



## PROSTHODONTIA

way detrimental to the same metal, after it has received the additional 8 per cent. platinum. The spring in the metal, however, is accentuated; its toughness is increased and yet it has been rendered much more adaptable than the commercial clasp metal.

The metallic finger which, it will be remembered, is one eighth of an inch longer than the depression carved for it within the crown, is now attached to the male hood, using a piece of 22-carat gold in the process. In order to insure a proper interplay of the parts, the male hood, carrying the crown, is removed from the swedging cup and the completed metallic finger is placed in position into the carved section of the crown; a piece of hard wax is dropped upon the gingival portion of the finger and male hood, while the rest of it is painted with graphite. It is invested, morsal side down, into the investment compound. The piece is allowed to thoroughly dry before it is cleaned out with boiling water, and then properly heated, fluxed and soldered. Only a small quantity of the soldering material must be used, and care must be taken not to allow any of it to run down beyond the mark upon the male hood, corresponding to the gingival eminence of the tooth to be crowned. The soldering process finished, the piece is cooled, cleaned of investment compound and boiled in an acid bath to be followed by a carbonate ablution. With sandpaper and cuttlefish disks it is thoroughly finished and finally polished with a crocus disk. It is ready to be tried in the mouth and will be found to fit perfectly.

### **Technique of Setting Male Hoods.**

The next sitting will dispose of the male hood as a laboratory factor. It has served its purpose in that respect. The female crown plus the locking groove has been constructed to fit and co-operate with the male finger-carrying hood, and the latter may be cemented into position. With the aid of cotton rolls and the saliva ejector, the mouth is kept dry, and, as an accessory aid in the process, the patient is requested to turn the head so as to cause whatever saliva may be secreted to flow toward the opposite side and away from the field of operation. The floss silk is severed, the gutta percha hood carefully removed to expose the sub-gingival shoulder, and the area is carefully washed with alcohol, to be followed by a solution of bichloride, 1 to 250. The cotton rolls are changed.

All instruments required for the operation must be in place before the patient is subjected to any discomfort, and under instruments are included the cement slab and cement, spatula and jiffy cement tubes. The tooth and surrounding area are again subjected to an alcohol bath, followed by a solution of adrenalin chloride, as a precautionary measure. Again the



## ITEMS OF INTEREST

cotton rolls are changed and the tooth is dried with a blast from the hot air syringe. The cotton rolls must again be replaced by others, and the tooth is surrounded by spunk, care being taken to carefully pack that down to the sub-gingival shoulder. The cement is thoroughly spatulated to a thin pasty consistency; some of this cement is inserted into the hood, which has been heated to a temperature slightly above that of the body; it is placed over the tooth, and with a gentle, rocking motion it is allowed to settle into place, the V-shaped extension serving as a guide for correct manipulation. The cotton rolls are changed from time to time while the hood is being held down upon the tooth until the cement has begun to crystallize. When that stage has been reached, the surplus cement is removed, a spray of warm water is directed upon the gum and the tooth, the gum is subjected to a brisk finger massage and the patient is either discharged or the work of obtaining an impression with the female crown in position may take place. The latter is not an advisable procedure, since it is safer to allow a longer time for the thorough crystallization of the oxy-phosphate.







## **The Use of the Inclined Planes in the Correction and Retention of Mal-Occlusion.**

By ALFRED P. ROGERS, D.D.S., Boston, Mass.

*Read before the American Society of Orthodontists, July, 1910*

Observations regarding the causes of mal-occlusion during the past few years have led me to believe that the lack of vertical development of the molars and bicuspid is a most important factor in the development of mal-occlusion. Consequently, what I wrote two years ago regarding mal-development in the molar and bicuspid region can be quoted to-day with even more conviction.

"During the period of transition, between the loss of the deciduous and the complete eruption of the permanent teeth, there is a gradual growth of the face in length, breadth and depth. The length is influenced very largely by the increased vertical development of the teeth and their processes. It is during this period, in normal cases, that a new and correct occlusal plane is developed; but in those cases where abnormal influences are introduced, there is a destruction of occlusal balance frequently resulting in mal-development of the occlusal plane. If the incisors are allowed to develop unhampered, they reach their correct occlusal altitude, but when influenced by retarded development in the pre-maxillæ, from whatever cause, they are prevented from reaching their typical positions. The same is true in the molar and bicuspid region."

My attention has been directed to mal-development in this region,



## ITEMS OF INTEREST

not alone among my own patients, but in numerous cases among patients of other orthodontists. I have not been able to find reasonable explanation why normal development does not take place in this region at the proper time.

### A Possible Etiologic Factor in Class II.

Reflections upon this condition convinced me that many Class II cases, following normal deciduous dentitions, have their cause in this lack of vertical development. Perhaps your observations may deny this proposition, but having seen some in-

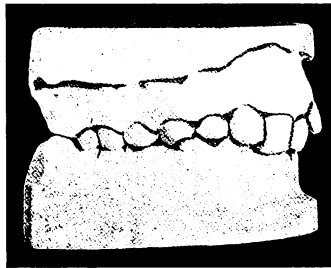


Fig. 1.

teresting and convincing mal-developments, it is hard for me to abandon that idea. It may be well to describe a case in which mal-development is seen to progress. Take a normal, healthy child, age five, and watch the development. The deciduous denture is normal. The eruption of the lower central incisors occurs, followed by the eruption of the upper central incisors; the process continues unhampered, and these teeth soon reach their proper altitude. They remain in this position, and the four lateral incisors develop in like manner. Now we will observe that the incisors gradually overlap until the lower ones are completely hidden from view. (Fig. 1.) We cannot by any argument convince ourselves that this is a supra-occlusion at this early age. For some reason the vertical development which should now be in progress in the lateral halves fails to occur, and the first molars, together with the temporary molars, are seen to occupy a plane much lower than the incisors. As these incisors glide past one another, the cutting edges of the lower come into contact with the lingual inclined planes of the upper incisors, which force tends to throw the lower arch into a distal position, thus hampering its further development. This primary inclined force has soon many allies in the numerous inclines of the other teeth. It will readily be understood that if



# ORTHODONTIA

inclined planes will produce this condition of mal-development, an artificial device of the same mechanical principle, *properly adjusted*, may well be used to assist in establishing the normal relations.

## Use of Inclined Planes.

In writing of the use of the inclined planes and bite planes in the correction of mal-occlusion and in retention of corrected cases, consideration will first be given to that class of cases most liable to be bene-

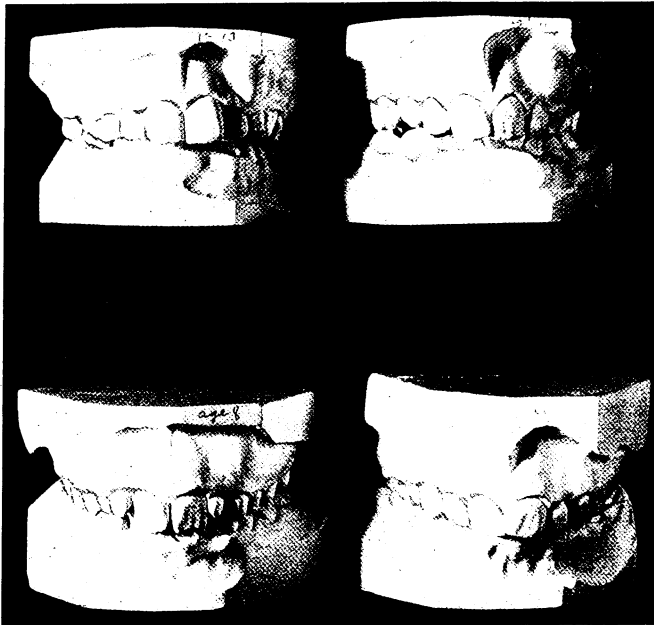


Fig. 2.

fitted by this form of appliance, with special reference to the general principles involved. The mode of application, together with a consideration of the technique, will follow. It seems fitting to pursue this course rather than to lengthen the paper by giving any space to the history of its development. It might be well to say, however, that the inclined plane and bite-plate have long been known as being of value to the orthodontist, and their use has been quite general.

Kingsley, I believe, was the first to use the device known as the inclined plane, to "jump the bite," as the correction of distal occlusion was termed at that time. Dr. Ainsworth has been an advocate of the inclined plane and has developed its usefulness to an important degree.

Although the inclined plane has long been used for the correction of



## ITEMS OF INTEREST

mal-occlusion, its application has been so frequently misinterpreted and its construction so faulty that there have been many failures following very promising first results. It is my object to describe as nearly as possible the construction of the apparatus which in my experience has proved most valuable.



Fig. 3.

Doubtless many of you will call to mind cases that have come under your attention, which, while confining yourselves to the usual methods of treatment, have given considerable difficulty regarding the adjustment of the occlusal plane. The principal symptom will be found in the excessive overbite in the incisor region.

The illustrations will show that class of cases (Fig. 2) which I have found yielded most satisfactorily to correction by this method. The appliance such as has been used in the treatment of these cases is not intended for primary use; but is confined to the secondary stage following the usual line of treatment up to that point where the arches are placed in their proper shape and size. The appliance should be restricted more to that period of retention and may therefore be termed an active retainer, since natural development takes place while the patient is wearing it.

Although these appliances may be used during various ages, I have found that between the ages of 9 and 12 is the field of greatest usefulness, because it is between these periods that the developing bicuspid and molars can be used to the greatest advantage, and where results will surely



## ORTHODONTIA

be more permanent, due to the natural development and tissue deposit which takes place at this time.

It will be readily understood that the first requisite in preparing the mouth to receive this appliance is that the upper arch shall first be placed in its proper shape and size, and that the first molars and the two centrals shall be in their true relation, this being accomplished in the usual way. In doubtful cases, when the treatment has progressed far enough to show

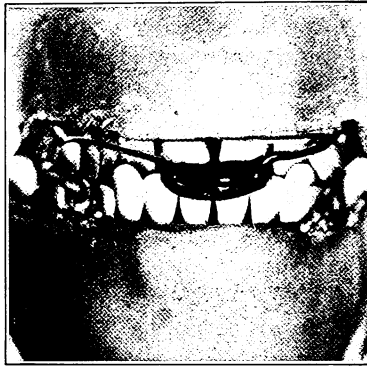


Fig. 4.

that an overbite is inevitable without depressing the incisors, and that the occlusal plane needs readjusting, it is then time to resort to the appliance.

### **Construction of Inclined Plane Appliance.**

When, as just stated, the arch is of the proper shape and size, and the first molars and centrals in good relative positions, bands are made to fit the molars (in many cases the bands which are used in the preliminary treatment may be used). McGill bands of gold or platinum are fitted to the central incisors (Fig. 3). My favorite material for this work is coin gold rolled down to about 32 or 33-gauge. The width of these bands depends largely upon the degree of stress which you expect the appliance to withstand. After these bands have been thoroughly well furnished to the incisors, a plaster impression is taken and the bands removed from the teeth and placed in their respective impressions. An accurate impression of the lower arch is also made, together with an accurate bite showing the correct overbite desired for the particular type of case which you are treating.

These models are then placed in an articulator in the relation indicated by the bite. Next in order is the construction of the bite plane, which I prefer to make of platinum-and-gold clasp metal, gauge 22. In general



## ITEMS OF INTEREST

shape this plane must be made so as to *engage the lingual surface of the four lower incisors* when the teeth are in occlusion. (Fig. 4.) After it has been accurately fitted to the lower incisors it is placed on the lingual side of the bands on the upper incisors and held in place with sticky wax. Eighteen-gauge gold clasp-wire is then carried from the molar bands to the incisors under the bite plane. The mesial ends of the labial hooks are flattened before they are placed in position overlapping the seam. This insures greater strength. These hooks may be made any shape or length required

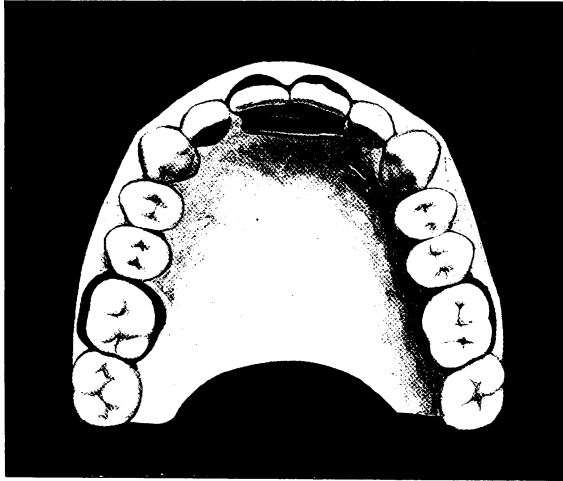


Fig. 5.

in the given case. Place hooks on the buccal surfaces of the molar bands directly over the mesio-buccal cusp. After these have been accurately placed and secured with sticky wax, the model is invested so as to leave all waxed parts exposed. When thoroughly dry, the appliance is ready for soldering. This must be done with the greatest care, and the use of sufficient solder to make the appliance strong in every part. Always allow the solder to flow between the incisor bands. When the appliance has been thoroughly cleaned and polished it is ready for application (Fig. 5). This should be attended without pain or discomfort to the patient if the work has been carried along and each step done with care.

It is always advisable to slip the appliance on the patient's teeth, allowing it to remain for some minutes in order that any difficulties might be discovered. If found to be perfect, it is carefully removed, dried, and the patient's mouth prepared for the cementing. The teeth are first thoroughly polished and dried with alcohol. The assistant mixes enough cement to not only fill all four bands, but to cover all four teeth with a suf-



## ORTHODONTIA

ficient supply. A hydraulic cement is preferable, as it is almost impossible in some mouths to keep the appliance dry for a long time after insertion.

When the appliance is carried to its place, the patient is allowed to bite firmly, assisting the operator in making a proper adaptation. Careful

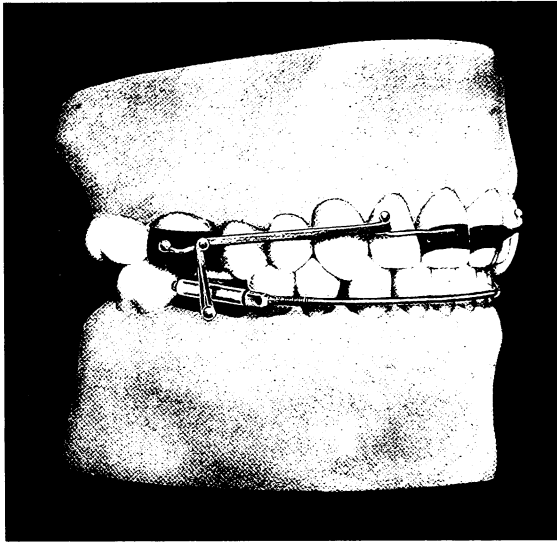


Fig. 6.

examination is made of all points to see that each part of the appliance has been carried home to its proper position.

The operator's attention is now turned to the condition of the lower arch. If there has been much opening of the bite, light intermaxillary elastics are applied in order to elevate the molars and bring them into occlusion. In cases where the bicuspid are just developing, no attention need be given them until they have erupted far enough to be carried into precise occlusion with the fellows of the opposite arch. The intermaxillary elastics are worn continually with this appliance for the first few months following the application.

Figs. 6 and 7 show views of the completed apparatus in position. Also the manner in which the intermaxillary elastics may be applied in order to effect the different movements.

### Cases from Practice.

Fig. 8. This is from a boy, 11 years of age, in which there was an entire lack of vertical development of the lateral halves. The case was perplexing, and I cannot see how it could have been success-



## ITEMS OF INTEREST

fully treated except by the method employed. The figure on the left shows the casts made just before the eruption of the bicuspid. The lower incisors were making their impression upon the rugæ. The occlusion was completely distal. The casts on the right show the same case about eight months after the beginning of the treatment, and about five months after the application of the appliance. When this appliance was first adjusted, the occlusal surfaces of the molars were one-eighth of an inch apart.

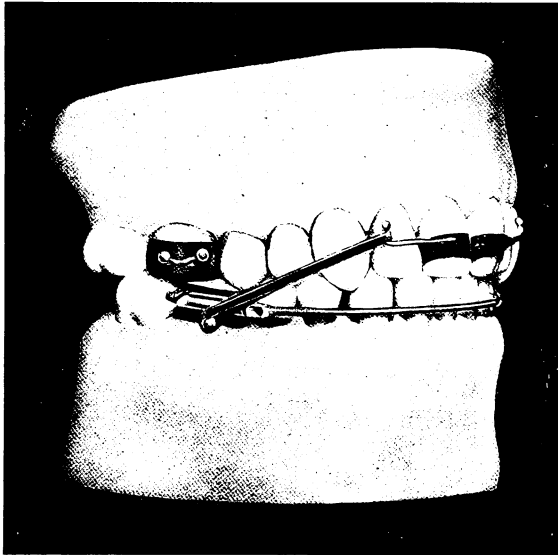


Fig. 7.

They have now come into precise occlusion, and you will observe that the bicuspid and cuspids are gradually coming into a good occlusion without any assistance whatever. Some of the bicuspid are slightly rotated, but these, being minor faults, can be corrected when they have erupted sufficiently. The appliance has been removed from the lower arch in order to better show the erupting cuspids.

Fig. 9 shows a Class II case in which this principle has been carried out with extreme satisfaction to the operator and patient. The fundamental principles involved in this case are not at all unlike those that I have already described. First, the moulding of the upper arch to its proper shape and size. Then the application of the apparatus and the use of the intermaxillary elastics to bring the lower arch into occlusion with the upper. This, as you will notice, is a developing case, in a



## ORTHODONTIA

boy of eleven. Nine months have elapsed between the two models. During that time the cuspids have erupted and are fast coming into occlusion. One feature regarding this case is that a larger space was left for the eruption of the cuspids than was actually required, in order that they

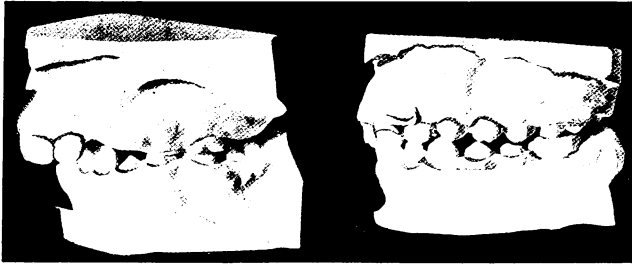


Fig. 8.

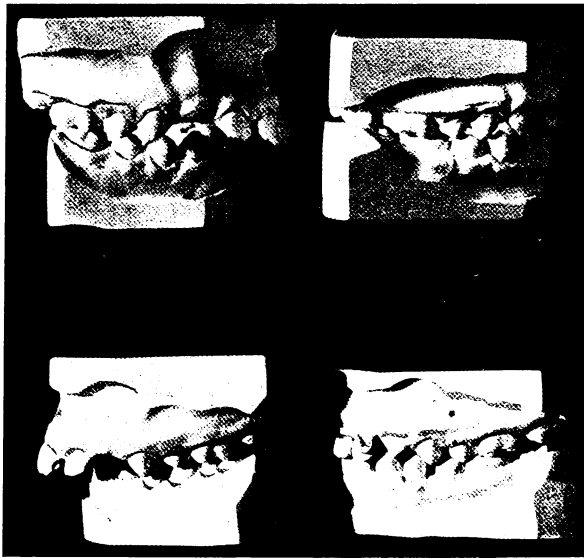


Fig. 9.

might have no interference in the progress of their development. When they have completely erupted, a lingual wire will be cut and intermaxillary elastics applied.

Fig. 10 illustrates a case from beginning to completion. The process of development is discernible without any explanation. The figures illustrate



## ITEMS OF INTEREST

the condition of the bite after the apparatus was applied with the intermediate stages of development. The last figure illustrates the completed case some time after the removal of the appliance.

In order to get all the main points clearly in our minds, it might be well to briefly review: First, the application of the apparatus is intended

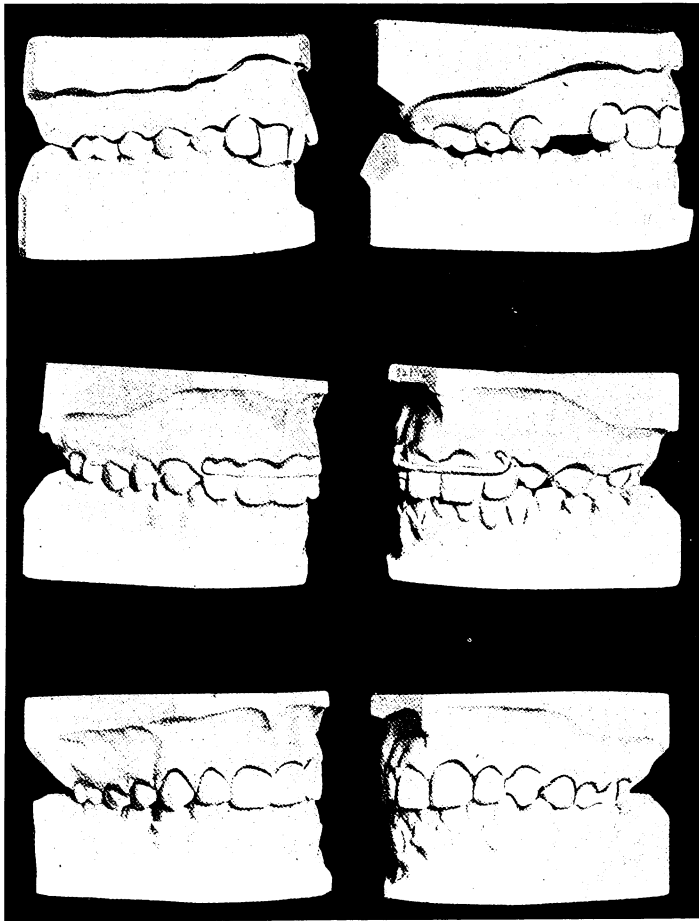


Fig. 10.

primarily for that class of cases where infra-occlusion occurs in the molar and bicuspid region. Second, the appliance is not intended for primary treatment, but follows at a definite stage in the process of treatment which occurs when the first molars and central incisors of the upper arch are in their true relation, and the arch of its proper shape and size. Third, ac-



# ORTHODONTIA

curate impression and bite must be taken. Fourth, the appliance must be constructed of strong material, carefully soldered, all weak points reinforced. Fifth, after its application, the use of the light intermaxillary elastics to bring the molars into occlusion.

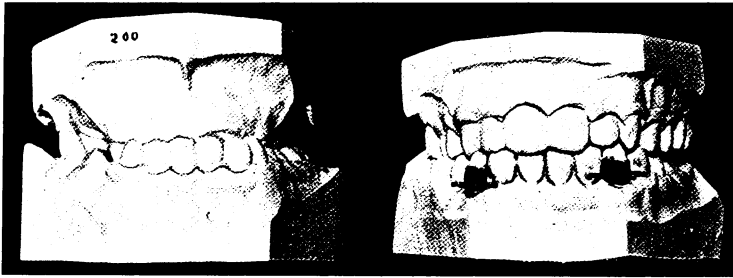


Fig. 11.

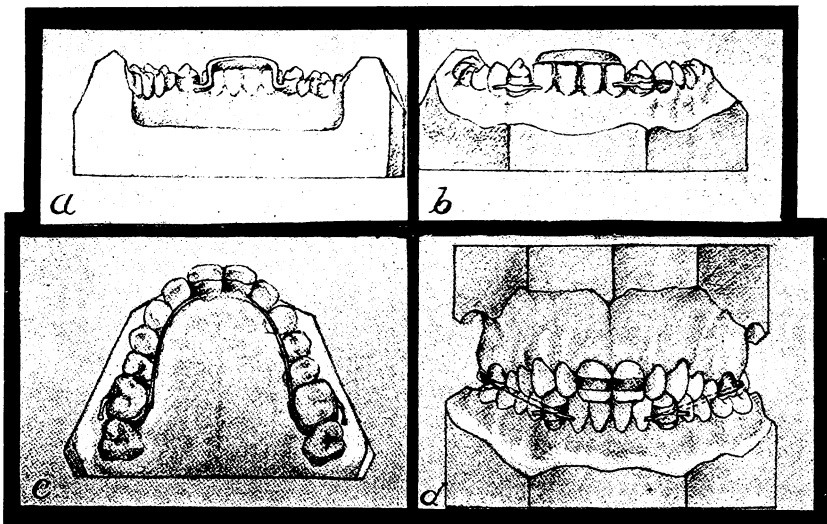


Fig. 12.

The inclined plane may be used *without the molar and lingual attachments only in cases where no infra-occlusion exists.*

## **Inclined Planes in Class III.**

One of the most gratifying uses to which I have put the inclined plane is in the treatment and retention of Class 3 cases. In this class of cases I believe there is a field for its extended usefulness.

The following illustrations will show the meth-



## ITEMS OF INTEREST

ods of construction of the inclined plane as applied to the lower arch.

The inclined plane apparatus shown in Fig. II is used principally for retaining purposes, but may, in some cases, be used with profit in the treatment of cases of Class 3, after the teeth of both arches have been placed in alignment. The same kind of material is used in the construction of this apparatus as is used in the construction of the inclined plane for the upper arch. It might be well to call attention to one necessary precaution in the use of the inclined plane for the lower arch,—the upper arch must be held intact by the device shown in the illustration, which represents molar and incisor bands, all four securely soldered to the lingual wire. Buccal hooks should be soldered to the molar bands for the accommodation of intermaxillary elastics, which should be used in the early period of retention. On the lower, a labial wire may be extended from cuspid to cuspid. When this is done, the intermaxillary hooks are placed on the distal side of the cuspid bands.

---

### Discussion of Dr. Rogers's Paper.

**Dr. Morehouse.** Since I did not get it clear in mind, I would like to ask about the use of the rubber ligatures from the hooks of the upper centrals back to the hooks on the upper first molars.

**Dr. Rogers.** To elevate and bring the molars into occlusion after they are in correct mesio-distal position, the elastics pass over the buccal hooks of the upper molars and engage the buccal hooks of the lower molars. These elastics must be very light.

**Dr. Young.** I have used this same principle a good deal in the retention of Class II, and I have found it very satisfactory. There is some little difference, of course, in the detail of the construction of the appliances; that is natural, as no two men work alike, but the general principles are the same. I believe, as was said in the discussion of Dr. Pullen's paper yesterday, that one of the difficult problems in the retention of Class II cases is the correction of the infra-occlusion of the bicuspid and molars. This helps out.

**Dr. Ottolengui.** I think I have used the inclined plane probably as long as most people, because I was associated with Dr. Kingsley. His inclined plane originally was made of vulcanite, but soon after he began turning over his orthodontia practice to me, I discarded vulcanite, because of an experience in a case like the one last shown, Class II, Div. II, where, as I remember, the infra-



occlusion was so great that with the appliance in the mouth it was difficult for the patient to masticate her food. The result was that the mandible was held back in its distal relation in order to eat, and she chewed up the inclined plane! Since then I have never made an inclined plane of vulcanite but I have made a number of roof-plates of iridio-platinum. These carry the plane and are removable, and in persistent cases I still use such appliances at night after the fixed appliance is abandoned.

I have used the inclined plane as a part of a fixed attachment in a number of ways, but meeting with an extreme case of infra-occlusion in the past two years, I treated it successfully in a novel way. I recognized early in the diagnosis the existence of an extreme infra-occlusion. After widening the arches with an appliance attached to the temporary teeth, I noted a coincident loss of all the temporary molars and a coincident eruption of the eight bicuspid. It therefore seemed exceedingly desirable to establish the correct occlusal plane during the eruption of these eight teeth.

For the upper arch I made an appliance consisting of molar bands and a heavy lingual arch wire. To the anterior part of this lingual arch I soldered a flat shelf of clasp metal—not an inclined plane, but simply a flat plane. This slightly opened the bite in the molar region, and the intermaxillary elastics were carried from hooks on a labial arch back over hooks on the molar bands, practically the same as in Dr. Rogers's appliance, Figure 6. The bicuspid continued to erupt and were soon in contact. The upper appliance was then removed and a second layer of clasp metal was soldered immediately over the first. The front edges of this thicker plane were then rounded so that it began to assume the action of an inclined plane, while still operating as a flat plane to open the bite. A month later the molars and bicuspid were again in contact and a third layer was added to the plane and the case dismissed for the summer. When the boy returned in the autumn the molars and bicuspid were found to have erupted fully.

I do not find it necessary to have the inclined plane go back so far, because the intermaxillary elastics are used with it. The patient cannot bite back of it at all. It is also a splendid retainer for the lower incisors, if properly constructed.

The apparatus shown by the essayist is efficient in the cases such as those shown, but there are more extreme cases of lack of vertical development. Sometimes there may be a tremendous opening in the molar region in using this principle, and I think in such cases it is an advantage to follow the plan I have outlined.





## ITEMS OF INTEREST

It is impossible for us to overestimate the necessity of attention to this particular phase, not alone in Class II, but in all cases that come to us for treatment. In the beginning, we should recognize two phases of the question. We should recognize the inequality in the amount of development of the anterior and posterior teeth, and we should recognize the general lack of vertical development. With those two things in mind, we may go on with the consideration of it as it applies to all classes of abnormalities. I am very much indebted to the essayist for his careful consideration of this class of cases. I believe his methods and appliances will be entirely effective; however, I have yet to find in my own experience any case, with perhaps one exception, in which I have been unable to acquire the proper relation between the anterior and posterior teeth in their vertical development, without the use of the intermaxillary force. This is, by giving the posterior teeth an opportunity of further eruption, giving them a period of complete rest of sufficient length to bring about that relation. Again, the necessity of making that treatment a secondary instead of an initiatory phase, seems to me to be open to discussion. For instance, in cases presented to me in the spring of the year, just preceding our summer vacation, it seems to be manifestly worth while to make use of that period of time for the application of an appliance to allow for the vertical development of the posterior portions of the arch. Other than that, I think it would be practical to proceed with the alignment of the arches, and then make this phase a secondary consideration.

During the reading of my paper yesterday, I showed some of Dr. Rogers's slides, his appliances, and the drawings made by myself from his earlier cases, in which it was shown that his inclined planes were larger than he uses now. His idea is to cut down the plane to interfere as little as possible with speech and mastication, and to afford the least lodging place for food. He has perfected the plane considerably since he first showed it to me. I do not think Dr. Rogers explained the use of the double hook on the upper molar clamp band. I will be glad to have him explain its use, and also how far outward the labial hooks extend from the incisor bands. I inferred from the paper that in constructing the apparatus the labial hooks from the incisor bands should extend far enough buccally so that the rubber elastics do not interfere too much with the cuspids or bicuspid.

It is realized that this apparatus is essentially used for developing cases, or growing children, rather than in adult cases, where we find extreme infra-occlusion of molars and bicuspid, with apparent, not real, supra-occlusion of the lower incisors, in which case this appliance will



## ORTHODONTIA

not do the work as well as others. For instance, in a real supra-occlusion of the lower incisors, we must use an apparatus to lift the lower bicuspid, and depress the lower incisors.

It was my fortune to see a well-developed case of the second Division of Class II before, and when practically completed, through Dr. Rogers's treatment. It was an extreme condition of this lack of development vertically in the bicuspid and molar region. I wish to state that the results in that case was very beautiful indeed, and to me it seemed that this method could be used in the more mature cases as well as in the younger ones,—at least in this one instance it worked admirably.

I would like to ask another question. In passing the ligatures from the hook on the incisors back over the hook on the molars, does it not bring a great deal of pressure on the bicuspid, causing depression, etc.?

I wish to compliment Dr. Rogers on his paper. It is very good indeed, and his technic is beautiful.

I believe that so far as technic goes, if we put a little ferrule on our molar bands and let the end of the lingual arch rest in the ferrule, we can cement the anterior bands in place easily, and if any band loosens there are fewer to remove in order to re-cement in place. The lower retaining wire is best on the lingual side of the teeth. We can often escape banding the lower cuspids by soldering a little spur to the lingual wire, so that it will lie between the lower lateral and cuspid, or against the disto-lingual angle of the lower lateral incisor, as described by Dr. Angle in the seventh edition of "Malocclusion of the Teeth." It keeps the teeth in their proper relations at that point, provided there has been no rotation of any of the anterior teeth.

I have used the inclined plane back of the upper incisors in quite a number of cases with much satisfaction. I have usually soldered it to either the central or lateral incisor bands, and in my own boy's mouth, have had the most unsatisfactory experience of any of the cases I have treated in this way. The case is a Second Division of Class II, Sub-division, with marked over-bite, with molars and bicuspid in infra-occlusion to some extent. After the upper laterals were rotated, heavy bands were placed on them with the lingual inclined plane attached, but his heavy bite drove the laterals up quite a little distance. Then I changed the anchorage to the cuspids, and he is now wearing the appliance attached to those teeth. A little girl just back from a year's trip, having an inclined plane soldered to right upper central and left lateral incisor bands, is doing very nicely.



## ITEMS OF INTEREST

**Dr. Rogers.** Regarding the use of the double hook, sometimes you do not need to use the intermaxillary elastics for the correction of the mesio-distal relation. You may then use the buccal molar hooks for the short light elastics to bring the molars together. (Fig. 6.) The length of the labial fingers may be as the case requires. In the last case shown on the screen, the labial fingers were made longer after the cuspids began to erupt. This case was started long before the cuspids came down. Be careful not to allow the elastics to press against the labial surfaces of the cuspids and bicuspids.

**Dr. Eischer.** Regarding the remark of Dr. Ketcham that he prefers a lingual wire on the lower, would not that interfere with the inclined plane?

**Dr. Rogers.** The inclined plane does not extend down to the gingival border. It simply needs to engage the upper half or third of the lingual surfaces of the lower incisors.

**Dr. Bogue.** Do you put that on after you have the forward teeth practically in the position desired?

**Dr. Rogers.** That is a fundamental principle. Get the arches shaped first and then bring the lower teeth into correct occlusion with it.

**Dr. Bogue.** You would not undertake to force the development of the grinding teeth?

**Dr. Rogers.** I would not force development. Use very slight stimulation of the molars in order to procure a good occlusion as soon as possible without discomfort or danger. I have had no difficulty such as Dr. Ottolengui speaks of, as I give instructions that meat be ground, and the child is encouraged to be careful about the mastication of food.

**Dr. Young.** The inclined plane which Dr. Rogers passed around (Fig. 5), I consider the nicest thing I have seen in the form of an inclined plane. It is much less in the way than anything I have ever used, and I think it a great step forward in the use of the inclined plane in retention.

**Dr. Bogue.** It seems to me that Dr. Rogers's inclined plane more nearly accomplishes the mathematical curve we want to get, and which is pretty nearly 55-100 radius or a little more. When you get that, if the lower cuspid teeth are correct in their position and far enough apart, occupying the proper position in the arch, you can hold them there by a lingual arch attached to the lower cuspid teeth. I offer my thanks to Dr. Rogers for this appliance.





## Neuralgia.

By DANIEL H. SQUIRE, D.D.S., Buffalo, N. Y.

*Read before the Second District Dental Society of New York, March, 1910.*

The object of this paper is to direct the attention of the dentist to the part which, perhaps unconsciously, he plays, in producing an over-stimulation of the dental pulp, with resulting pain of a neuralgic character.

It is also a plea for the careful and intelligent consideration of the age, nervous temperament, and occupation of the patient, together with the existing physical and chemical influences, to which the teeth are subjected; all of which have an important diagnostic bearing upon the conservation of the dental pulp.

Neuralgia of dental origin is brought about—first, by natural causes, as anæmia, mal-nutrition, malaria, caries, etc.; second, by faulty manipulative procedures on the part of the dentist.

In order to understand the phenomena of neuralgia of dental origin, the parts involved and the connection between the source of irritation and the distribution of the pain, it is necessary to *briefly* review the anatomy of the tri-facial nerve, and its communications with other cranial nerves, and, with the sympathetic system.

### **Anatomy of Tri-facial Nerve.**

From its superficial origin, the motor and sensory roots of the tri-facial nerve pass forward, through an oval opening in the dura mater to the anterior surface of the petrous portion of the temporal bone. At the apex of this surface, the sensory root has a ganglion (the Gasserian) developed upon it. The motor root passes beneath the ganglion and is not connected with it.



## ITEMS OF INTEREST

The Gasserian ganglion receives a communicating branch from the carotid plexus of the sympathetic system, and, from its anterior border, it gives off the three divisions of this important nerve.

The first or ophthalmic division passes forward along the side of the body of the sphenoid bone to the sphenoidal fissure and there divides into a lachrymal, a frontal and a nasal branch.

The trunk of this nerve, before dividing into its terminal branches, communicates with the motor-oculi nerve, which is the motor nerve to most of the muscles of the eyeball and orbit; the trochlear nerve which is the motor nerve to the superior oblique muscle, and also with the abducens nerve, which supplies the external rectus muscle with motion. The trunk of this nerve receives a communicating branch from the cavernous plexus of the sympathetic. Of its three terminal branches, the lachrymal supplies the lachrymal gland, the conjunctiva and the inner canthus of the eye. It communicates with the maxillary division of the tri-facial nerve and also with the temporal branches of the facial nerve.

Its frontal branch passes to the supra-orbital region and supplies the integument and muscles over the frontal bone as far back as the vertex of the skull, the frontal sinuses and the eyelids, communicating with the facial nerve.

The nasal branch passes to the orbital cavity and supplies the ciliary muscles, iris, and the eyelids; thence through the cranial cavity into the nasal fossa and supplies the mucous membrane of the forepart of the septum and the outer wall of the nerve. It terminates on the face and communicates with the supra-orbital branch of the ophthalmic division and facial nerves.

The ciliary ganglion connects the ophthalmic division with the sympathetic system. It is situated in the outer part of the orbital cavity between the external rectus muscle and the optic nerve. It has a sensory root derived from the ganglion branch of the nasal nerve, a motor root from the motor oculi nerve and a sympathetic root from the cavernous plexus of the sympathetic. Its branches of distribution are the ciliary nerves which supply the coats of the eye, the iris, and ciliary muscles.

The second or maxillary division passes forward from the anterior surface of the Gasserian ganglion leaving the cavity of the cranium through the foramen rotundum, and enters the sphenomaxillary fossa. It then passes through the sphenomaxillary fissure and, entering the orbital cavity it proceeds forward into the infra-orbital canal in the floor of the orbit, and terminates upon the face through the infra-orbital foramen, as the infra-orbital nerve, and divides into its terminal branches the nasal, the labial, and the palpebral.



In the cranium it gives off a recurrent branch which supplies the dura mater in the cavity of the skull; in the spheno-maxillary fossa, the orbital branch supplies the structures in the temporal region, and the muscles and integument upon the prominence of the cheek. The spheno-palatine branches pass to the spheno-palatine ganglion; the posterior dental branch enters the superior maxillary bone through the posterior dental foramen and supplies the roots of the molar teeth, the mucous membrane of the gums and the posterior wall of the antrum.

In the infra-orbital canal are given off the middle superior dental nerve which passes in a separate canal in the bone and supplies the pulps of the bicuspid teeth. The anterior superior dental is given off from the infra-orbital nerve just before it leaves its canal, and, passing downward along the anterior wall of the antrum, it supplies the mucous membrane of the antrum, the pulps of the cuspid and incisor teeth, sending a branch to the mucous membrane covering the floor of the anterior part of the inferior meatus of the nose. These dental nerves freely communicate with each other.

The terminal branches of this division supply the lower eyelids, the wing of the nose and the integument on the prominence of the cheek. This division communicates with the ophthalmic and the facial nerves.

Meckel's ganglion is associated with this division and occupies the upper part of the spheno-maxillary fossa, close to the trunk of the nerve. It receives a motor root and a sympathetic root through the vidian nerve. The vidian nerve is situated upon the cartilage filling up the foramen lacerium medium, and is formed by the union of the great deep petrosal nerve, which is derived from the carotid plexus of the sympathetic system, and the great superficial petrosal nerve which arises from the geniculate ganglion of the facial nerve, in the internal auditory meatus. The vidian nerve then passes forward and enters the posterior side of Meckel's ganglion. Its sensory root is derived from the maxillary portion of the tri-facial nerve through its spheno-palatine branches.

The branches of distribution from this ganglion supply by groups the pharynx, the nose, the palate, and the orbital cavity.

The third or mandibular portion is also given off from the anterior surface of the Gasserian ganglion and passing with the motor root through the foramen ovale, leaves the cavity of the skull and then joins with the motor root to form the trunk of the nerve. Before it divides into its terminal branches it gives off a recurrent branch to the dura mater in the cranial cavity, and an internal pterygoid branch, which supplies the internal pterygoid muscle and communicates with the otic ganglion. The trunk of the nerve then divides into an anterior and a posterior division. The anterior branch supplies the muscles of mastication; the posterior branch



## ITEMS OF INTEREST

divides into an auriculo-temporal branch which supplies the scalp in the temporal region, the temporo-maxillary articulation, the parotid gland, the skin of the external auditory meatus and the membrani tympani. It communicates with the otic ganglion and the facial nerve, through its parotid and temporal branches.

The lingual branch supplies the mucous membrane over the anterior two-thirds of the tongue, the outer wall and floor of the mouth. This nerve communicates with the chorda-tympani branch of the facial and is incorporated with it in its final distribution. It is also connected with the hypoglossal nerve, as these two nerves pass forward over the hypoglossus muscle.

The inferior dental branch passes downward and enters the inferior dental foramen. It traverses the substance of the ramus and body of the jaw, distributing branches to the molar teeth. At the mental foramen, it divides into a mental and an incisal branch. The mental passes outward through the mental foramen and supplies the muscles and integument on the prominence of the chin. The incisal branch supplies the cuspid and incisor teeth. Before entering the inferior dental foramen it gives off a mylo-hyoid branch which supplies the mylo-hyoid muscle.

There are two ganglia which connect the mandibular division with the sympathetic system ( $\alpha$ ) the sub-maxillary, which is placed near the lingual branch. The sensory root of this ganglion is derived from the branch, the motor root from the facial nerve through its chorda-tympani branch and a sympathetic root from a plexus around the facial artery. The branches of distribution of this ganglion are to the sub-lingual gland and Wharton's duct.

The otic ganglion is situated close to the internal pterygoid branch just beneath the foramen ovale. Its sensory root is derived from the small superficial petrosal nerve, from the tympanic plexus (through which a communication is effected with the tympanic branch of the glossopharyngeal nerve and also with the facial nerve through branches from the geniculate ganglion); a motor root is derived from the internal pterygoid nerve; and a sympathetic root, from a plexus around the middle meningeal artery.

The communicating branches from the mandibular division join with the vidian nerve the roots of the auriculo-temporal nerve and the chorda-tympani branch of the facial nerve. The branches of distribution of this supply the tensor-tympani and tensor-palati muscles. This extensive area of distribution of the tri-facial nerve and its frequent communications with other cranial nerves and the sympathetic system give to us some idea of the extent to which pains from the teeth may be reflected.



**Tri-facial  
Neuralgia.**

Tri-facial neuralgia is very important and one which may be persistent and intractable. The constant liability of this nerve to injury and infection in its distribution to the face, nose and pharynx is very great. Its course through bony canals and over unyielding tissues, and the large area over which its branches ramify, renders it especially liable to irritating influences.

It is affected about equally often on either side and rarely bi-laterally. Sometimes all three divisions are painful, but usually it is confined to one or two divisions. When the ophthalmic division is affected, the supra-orbital region is painful and it may radiate over the brow or back to the vertex of the skull. The eyeball may be the seat of pain or tender to the touch. The tender points upon the face are at the lower border of the nasal bones and at the supra-orbital notch.

The maxillary division causes a tenderness in the maxillary region, extending from the lower border of the orbital cavity above to the mouth below, including the wing of the nose and the cheek. The tender points upon the face are at the infra-orbital foramen, the prominence of the cheek, the lower border of the nasal bones, the gums above the cuspid tooth and sometimes the hard palate.

The mandibular division, when affected, causes pain along the body of the lower jaw, the tongue, and the zygomatic and parietal regions. The attacks usually are severe and cause a disturbance of the blood supply and secretory glands through the stimulation of the sympathetic system. Salivation, lacrimation, mucous discharge from the nose are often noticed. The side of the face, also the tongue, or the brow may be swollen and edematous. This is also often accompanied by a hyper-algesia which causes intense pain upon wiping the nose, the mastication of food or the taking of liquids into the mouth.

Modifications of sensation are among the commonest conditions attending nerve lesions and functional disturbances of the nervous system. All sensations are modifications of touch. It is an appreciation of temporary motion and contact. It is therefore the impact of luminous and sound waves upon properly specialized nerve expansions that give rise to the sensation of sight and hearing. The contact of odorous and sapid particles stimulates the sensation of smell and taste. Thus, the recognition of the various qualities of objects in contact with the skin give to us the information of size, shape, temperature, hardness, smoothness, and other physical properties.

We are, therefore, brought to know all things through the great sensory nervous system, and so long as an equilibrium is established and maintained between the nerve expansion and the impressions of contact,



## ITEMS OF INTEREST

the human body will not suffer from over-stimulation. It is well known to-day that neuralgia is a symptom of some disorder of the nervous system, and that if it is persistent it becomes a neuritis which is an inflammation or degeneration of the nerve which arises from local causes.

In all cases of neuralgia, the teeth, the eye, the ear, and the air sinuses should be carefully examined. The nerve communication between these regions is so frequent that over-stimulation of the nerves in the pulps of the teeth may be referred to these points accompanied by the sensation of pain. The pain sense is the subjective recognition of this over-stimulation, coupled by instinct and experience, with the concept of harm. Sensations, except of an extremely painful character, if long maintained are completely ignored. Therefore, to elicit sensations, the contact must be temporary or repeated at distinct intervals.

The keenness of sensibility varies in individuals. The more active and intelligent the patient, the quicker the response to over-stimulation. The occupation also augments this highly wrought nervous condition. It is true that artists, sculptors, professional and highly cultured people are exceedingly susceptible to responses from over-stimulation of the nerves. In these classes the nervous balance of the system is very delicate and the least deviation from the normal is keenly appreciated. Neurasthenic pains always increase under fatigue or exhausting emotion, a condition often met with during the strain of prolonged dental operations.

Pain, as a symptom, must be carefully studied.

### **Pain.**

It may be constant, intermittent, periodical, as appearing at a regular time of a day, every other day, or it may be more intense at some particular part of the day. One should recognize the quality of the pain, whether it be sharp, lancinating, dull or heavy. The distribution of the pain should be carefully studied to see if it be limited to the cutaneous area or to a spinal segment. Any involved area during the paroxysm of pain is invariably hypersensitive.

The maximal points of pain are at the emergence of the sensory nerves through their foramina of exit in the skull or where they pass bony prominences. These may be easily ascertained by pressure upon the face and neck.

### **Dental Pulp as a Factor in Neuralgia.**

From a dental standpoint the pulp of a tooth is very frequently the source of tri-facial neuralgia. The tests and histories of the diseases of the dental pulp call attention to its vascular supply as the primary cause of many of the conditions of this organ which are attacked by paroxysmal or reflex pains.



Pain as a diagnostic symptom in lesions of the dental pulp is of great value. The pain produced by the irritation of the pulp of a tooth is rarely referred to the point of its origin; therefore, Black says that the dental pulp is not the tactile organ of the tooth, neither does it possess the sense of location.

Let us briefly consider the structures of the dental pulp. It consists of a gelatinous matrix containing branched connective tissue cells. It is traversed by nerves and blood vessels which enter at the apical foramina of the tooth. The nerves sub-divide and form a closely interlacing plexus of non-medullated nerve fibres, while blood vessels form a capillary network nearer the surface of the pulp. Over the entire surface of the matrix is a layer of odontoblasts which send prolongations into and throughout the length of the tubules of the dentin and are known as the dental fibrillæ.

The arteries, accompanied by one or more veins, enter and merge through the same foramina at or near the apex of the root and, subdividing, form a rich plexus beneath the layer of odontoblasts. The arteries and veins lose their muscular coats as they enter the foramen, which is of importance, clinically. The vascularity of the pulp decreases with age, and its tissues become more fibrous. Dr. Black says the calibre of the arteries lessen in size as the passage becomes smaller.

The nerves of the pulp are derived from the tri-facial of the cerebro-spinal system and sympathetic system. The nerves from the sympathetic system are distributed as vaso-motors to the muscular coats of the blood vessels, these being lost as the vessels enter the pulp cavity. Those of the tri-facial form a plexus in intimate relation to the odontoblasts, and the opinion is held that these may either terminate in the odontoblasts or between them.

**Disease of  
The Dental  
Pulp.**

The diseases of the dental pulp are both acute and chronic, and, according to the anatomic features, they may be considered destructive and constructive. The acute diseases are usually destructive, and on account of the rapid progress and termination are not a source of prolonged neuralgia and, therefore, are not considered in this paper. The chronic diseases produce structural changes by the formation of deposits of new masses of calcific material, and on account of their gradual irritating influence upon the pulp, are the source of some of the most persistent forms of tri-facial neuralgia.

Pathologically there is no abrupt line of separation between those disorders usually termed diseases of the dental pulp, and those which are described as diseases of live dentin. As soon as the tooth loses any of its enamel insulation, the vital portion of the dentin is subjected to a new



## ITEMS OF INTEREST

environment. This is an abnormal condition. The fibrillæ thus being exposed are irritated and produce a reactionary effect upon the tissue cells of the pulp, and, according to the severity and duration of this irritation, structural and functional disorders in the pulp are produced. It is the continuous mild irritative influences which are responsible for the chronic diseases of the dental pulp.

### Diagnosis of Pulp Disease.

The practitioner bases his diagnosis many times upon the anatomic conditions of the pulp, on the symptoms which he is able to produce by tests and the history furnished by the patient. The tests to ascertain the healthful condition of the pulp are made by air and water at different temperatures. Dr. Black found that if a tooth were isolated by the rubber dam, and was subjected to a jet of water at 40 degrees F. temperature, a paroxysm of pain was produced. He also found that a jet of hot water would produce a similar pain, and that, if the patient's eyes were blindfolded, no difference in the sensations were noted, showing that the normal pulp responds to thermal stimuli, hot or cold, indifferently.

In health, the pulp is accustomed to variations of temperature of from 60 to 105 or 110 degrees F., and it is not affected by the degree of temperature within this range.

With a decrease of thickness of the enamel covering, by either abrasion or crosion, or, by a deficiency in the thickness of the dentin by caries, the pulp responds more quickly to thermal stimuli. This reaction is followed later on by responses to lesser degrees of temperature change, until the pulp responds quickly to water at 70 degrees F. and slightly over the bodily temperature of 102 degrees F. The pain which has been of sharp, paroxysmal character, now becomes heavy and throbbing to moderate stimulation and in the latter stages, the pain, caused by hot applications, is intense, while cold applications give relief.

On the other hand, in the constructive diseases, the normally prompt response is followed by delays in reaction until the application of the cold to the tooth must be continued before getting a reaction pain. In these cases, there follows, after a long time, an increasing response to heat, the reaction pain occurring after long continued applications of heat stimuli. Later, the response to increased heat or cold temperature is followed by a period of quiescence, which denotes a paralysis of the sensory functions of the pulp.

These symptoms are evidence of morbid changes in the anatomic elements of the pulp. In the former instances, the pulp, through its vaso-motor stimulation, becomes inflamed, irritated, and finally paralyzed by



thermal stimuli, during the progress of caries. The blood vessels, which at first remain normal, soon become irritated through their vaso-motors, which cause paralysis, followed by dilatation and pain of a throbbing character. Changes in posture as a reclining position, cause further distension of these paralyzed vessel walls, accompanied by increased pain. Stimulation by cold until the latter stages causes a sharp pain, which may be due to sensory nerve reaction.

When the blood vessels are paralyzed, heat causes further relaxation of their muscular coats, which produces pain by pressure upon the nerve terminals.

In the latter instance, the delayed response to stimulation is due to an increase in the insulation of the pulp through the thickening of its dentinal walls, and also by a fibrous condition of the pulp itself, which is due to a lessening of its vascularity. The degeneration of the sensory nerves and changes in the walls of the blood vessels which limit vaso-motor stimulation, cause changes in the calibre of the vessels. Therefore, these reactions emphasize the division of the diseases of the dental pulp, as active or destructive, and chronic or constructive.

**Neuralgias  
Caused by  
Diseased Pulps.**

The most severe cases of neuralgia and the most difficult of diagnosis are frequently caused by the constructive degenerative diseases of the dental pulp. When this organ is not sufficiently protected by the hard tooth tissues, the artificial means of insulation by the various filling materials may cause, first, a mild continuous stimulation of the pulp, brought about, secondly, by an irritation which is a result of the shock of thermal stimuli.

The first reactionary effect noticed is the lessening of the lumen of the tubuli, and a corresponding decrease in the diameter of the fibrillæ. It is probably a filling in of the tubules with deposits of new calcific matter. It is nature's effort to place a barrier between the pulp and this outside irritative influence. If this filling in process of the tubuli is not sufficient protection for the pulp, the constructive changes progress and the pulp is stimulated through its odontoblastic layer to formative activity and a layer of dentin is deposited upon the pulpal wall opposite the area of stimulation.

If such secondary dentin is formed, the odontoblastic cells in the area become obliterated, after which the deeper cells of the pulp tissue take up the function of forming a secondary dentin. This condition may take place in a pulp canal constricting its diameter or completely closing it. When the deposit of secondary dentin is extensive, it is a cause of neuralgia which is brought about by the degenerative condition of the



## ITEMS OF INTEREST

pulp itself. Following the deposition of secondary dentin, the deep cells of the pulp tissue also form pulp nodules from over-stimulation. These vary in size from minute particles to those of quite large dimensions which may almost fill the pulp chamber.

As these nodules increase in size, they cause pressure upon the nerves in the pulp and, through their irritative influence, are a source of obscure reflex pain. The smaller deposits may exist in apparently sound teeth without causing pain, yet the pulps become excessively hyperæsthetic under mild sources of irritation. The dentin also becomes very sensitive, and cool water produces excruciating paroxysms of pain.

The neuralgia under such conditions may be reflected to the ear or other remote parts of the body, and the pain may be either persistent or recurrent. When large nodules are present, the dentin is not sensitive, and thermal stimuli cause faint or delayed responses from the pulp. Such cases give a history of reflex neuralgic pains extending over a period of years, when, by degenerative influence of continued stimulation, the blood current becomes semi-stagnant, and infiltration of inorganic matter takes place in the pulp tissues. A chronic inflammation of the pulp or formation of secondary dentin nodules causes a state of exhaustion in the vital processes of the organ, which is favorable for the deposition of calcific matter. It may be tubular or cylindrical in character. These pulps are removed easily from canals after devitalization, as they have not the usual odontoblastic attachment to the dentin.

This condition of the dental pulp presents symptoms of referred pain. The tests show a greater response to heat than to cold stimuli, both of which are delayed.

The constructive diseases of the dental pulp are, therefore, evidences of Nature's effort to protect herself even at the expense of her vitality. Furthermore, it is the effect of the stimulation of the formative processes of the pulp to continued activity which causes many cases of tri-facial neuralgia.

It is the duty of the dentist to look at the subject of operative technic, not so much as a mechanical means to accomplish an end, but rather to consider the stimulating influence that the filling materials may produce upon the formative processes of the pulp. We must prevent, as far as possible, functional disturbances, if we would avoid neuralgic tendencies.

**Pulp  
Extirpation  
Advisable.**

There are no filling materials used singly or in combination which will insulate the pulp as well as the normal dentin or enamel. The primary function of the dental pulp is embryonic, and is complete when the typical demands upon it have been satisfied. From



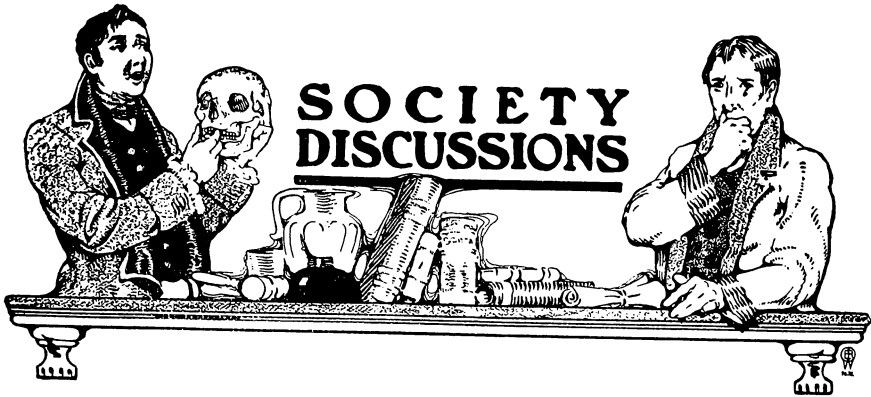
the twentieth to the thirtieth year, the pulp, in the average individual, maintains its normal vitality; but from this time on, in the opinion of the writer, the pulp goes into a natural decline, which gradually progresses with advancing age.

Under these conditions it would be better practice to devitalize the pulp in teeth of patients past forty years of age or even at an earlier time, before placing large metallic fillings, or gold or porcelain shell crowns.

In conclusion, the writer wishes to emphasize, in view of the light of clinical experience and observation, that it is imperative for us to consider the predisposing and the exciting causes of nervous irritation in each individual case. It is also of great import to pause and consider what effect the operative measures and the fillings which we prescribe and place in the teeth will have upon the future health of the pulp. If we neglect these things, we, as dental practitioners, are the greatest source of tri-facial neuralgia.







## Second District Dental Society.

### March Meeting.

A regular meeting of the Second District Dental Society of the State of New York was held on Monday evening, March 14, 1910, at the Kings County Medical Association Library Building, No. 1,313 Bedford Ave., Brooklyn, N. Y.

The President, Dr. F. T. Van Woert, occupied the chair and called the meeting to order.

The Secretary read the minutes of the previous meeting, which were approved.

It affords me pleasure to present one of the leading men of the State of New York as our essayist to-night—one of the men for whom I, personally, have always had the highest regard; and I think that those present, who have been students under him, will feel as I do. I present to you Professor Daniel H. Squire, of the University of Buffalo, who will offer for your consideration a paper on "Neuralgia."

**Dr. Squire.** *Mr. President and members of the Second District Dental Society:*

It is always embarrassing to me to be introduced as a college teacher, because I think more is expected from a man who gives even a small part of his time in teaching in colleges than from the man in ordinary and general practice.



## SOCIETY DISCUSSIONS

I presume you have all read the article in the last edition of the *Cosmos* about dental colleges, and I have no apology to make.

My paper is based upon experience derived from cases which I have met in practice, and which I felt were due to the constructive diseases of the dental pulp.

(Dr. Squire then read his paper, illustrating his points with fine lantern slides, which unfortunate circumstances prevent us from reproducing, the negatives not being available.—Ed.)

### Discussion of Dr. Squire's Paper.

I have enjoyed the paper very much, and feel **Dr. Harold S. Vaughan.** greatly indebted to Dr. Squire for the manner in which he has presented this subject. He has given us a very thorough review of the anatomy of the fifth nerve, showing in detail the ganglionic formations and communications so that we might better understand this subject. Following this he has given us a review of neuralgia and the way in which it may be brought about, and also the histology of the pulp, followed by his beautiful slides. I do not think a more detailed description could be presented. Therefore there is nothing in the paper with which I can disagree. Of course, in the consideration of tri-facial neuralgia, we should make a distinction between the idiopathic cases, commonly considered as tic douloureux, and those which arise from more reflex causes.

We have a rather typical condition with the tenderness over certain parts, the paroxysmal pain brought on by surface irritation, the hyperæsthesia brought on by simply touching the skin, and in addition, of course, the painful points on pressure. The paroxysms of pain, I think, are more or less typical, inasmuch as they are apt to commence and the patients have attacks for weeks at a time and then suddenly be relieved, with a free interval of varying periods; but later the period of attack becomes longer and the interval shorter until, finally, there is almost no cessation.

These, I think, can be distinguished from the reflex neuralgias from other causes, although, as Dr. Squire pointed out, the pulp nodules may produce almost constant cases similar to some of the older cases of tic douloureux. Of course, the specialist in a given field will see the cases within his own horizon, and would consider them of greater importance; and for that reason I think it is well to consider all the possibilities, if we can, that may give rise to these troubles, and from this excellent description and illustration of the facial nerve, we can follow this out.



## ITEMS OF INTEREST

**Pulp Nodules.** The question arises as to the percentage of pulp nodules that give pain. The formation of secondary dentin must take place under practically all fillings, and still we know that only a small percentage give neuralgic symptoms.

In closing the discussion, I would like Dr. Squire to tell us whether he considers the formation of secondary dentin along the walls of the pulp chamber an important factor in neuralgia, as compared with the formation of nodules within.

### **Other Causes of Reflex Neuralgias.**

Of course, we should look for and try to eliminate all of the causes. In discussing this subject with an oculist, he puts it that practically all of the cases of neuralgia come from errors of refraction. Then again we must consider nasal lesions. That is well shown in the reflexes that may come down by way of the nasal nerve and be referred to the teeth in cases of hypertrophies of the nasal septum, where that terminates. I have also seen cases—one in particular—due to an enlarged middle turbinate that contained one of the large ethmoidal cells. This patient had suffered attacks of neuralgia sometimes referred to the teeth, but relief would usually follow the discharge of a considerable quantity of mucus from the nose. The condition was one of a large cell, and it would become blocked by mucus, and then would spontaneously discharge and give relief. This condition was remedied by removing the anterior part of the middle turbinate with the offending cell.

The frontal and sphenoidal sinuses of the antrum are also well-known factors, and these, of course, may all be referred to the teeth. Another very common cause is that of antral engorgement in cases of influenza. They will produce distinct soreness, on percussion, in the molars. I have seen a number that cleared up on the subsidence of the attack without suppuration. It was simply catarrhal engorgement.

### **Impacted Teeth.**

Another cause is impacted or supplementary teeth. The cause is largely by pressure on the inferior dental nerve in the canal. Another common cause is in cases of malposed teeth which many times are entirely covered, but also where a sinus may lead down to them. Decay takes place very rapidly and pulp exposure. I recall a case of a woman of fifty-five who had worn a plate for a number of years, and she did not know anything about this non-erupted third molar. From the irritation of the plate communication was formed, and it became infected, leading to caries of the tooth. Finally the pulp became exposed, and this went on for a number of months with frequent attacks of pain,



usually worse at night. When I saw the case, I probed the sinus, and found what seemed to be the crown of a tooth, and by means of a radiograph I located it and removed it under ether. I found the pulp exposure, and the pain was, of course, then easy to relieve.

Another cause is an exudation of cysts that exists sometimes under old suppurated roots. I recall one of about a year's standing, where relief followed the removal of a second bicuspid root which was in relation with a cyst which contained about a drachm of fluid.

Then again, in addition to irritation from other regions being referred to the teeth, we have, of course, as Dr. Squire said, reflexes of dental origin being referred elsewhere, as to the eye, the nose or the ear. Otagias of dental origin are very frequent. I recall one case of a reflex pain to the ear and to the regions external. There was a thickened area from chronic infection on an upper right first molar. Pressure over this thickened area always caused pain in the upper third of the sternum. The patient suffered from otalgia as well, and this was cleared up on removal of the infected root.

Another cause of reflex neuralgia, in which the local symptoms may not be very great but the reflex is rather constant, is that which you have all seen in cases of pericemental infection from the cervical margin—not from pulp infection but in cases of pyorrhea. In these cases, very often the referred pain is greater than the local condition.

Another very frequent condition I have frequently noticed is that pain may be quite persistent in the maxilla for a time, pointing to a region, or it may locate itself in a definite tooth. Then suddenly it may shift to the other jaw. The patients are more or less neurasthenic. They are usually accompanied with neuralgias elsewhere—in the occipital region and the vaso-motor district.

Then there is herpes buccalis. This may occur in the mouth, or be associated with herpes facia. There is irritation which may be followed by numerous small painful ulcers. The pain may be more acute before the eruption.

A very important thing to consider is to protect the patient in these cases of neuralgia from needless loss of sound teeth. In nearly all of the cases of tic douloureux we will find the patient has lost one or perhaps all of the teeth. I think it behooves the dental practitioner to consider all of the causes, and try to eliminate them, rather than to take the advice of the patient who may locate the trouble in one particular tooth. I recall one case of an old lady of seventy-two. She came to me two years ago, and, after making an examination, I found rather typical

**Caution Needed  
in Diagnosis.**





## ITEMS OF INTEREST

symptoms, I thought, of tic douloureux, although it had only then commenced. There was hyperæsthesia—by the way, the pain referred chiefly to the upper jaw region—and paroxysms of pain were brought on by muscular movement; there was a typical tender point over the infra-orbital foramen. I made the diagnosis of tic douloureux, as I say, and wanted the patient to have a radiograph taken for further diagnosis; and I advised, in her case, alcoholic injections. She refused both, and I learned the subsequent history of the case from her niece. After other consultations, it was suggested that a bicuspid contained either a pulp nodule or an inflamed pulp. The pulp was removed with apparent relief for a day or two; then, of course, the pain returned. Then this tooth was extracted, followed by two more. The pain still continued, and some time later she had a radiograph taken, and it was interpreted as an area of thickened bone in that region. That area was attacked and cut out with no relief. She would have some free intervals, but the pain increased and the intervals of rest decreased until two years later she finally had alcohol injections which are giving her relief; and she has had relief now for three months. How long it will last, I do not know, of course.

The X-ray, I think, should always be used in these doubtful cases. In closing my remarks, I would again emphasize the importance of a thorough examination in all these cases, and I advise practitioners not to extract teeth unless there is good cause for it.

I would like to ask the men who have had experience with radiographs whether many pulp nodules will show. I have a number of cases that seem to show pulp nodules that have not given symptoms. I think there is still a question as to how much the radiograph can be counted on to show pulp nodules.

It seems to me it would be a good time for our  
**Dr. F. C. Walker.** President to answer the question in regard to the radiographs.

If Dr. Babcock will take the chair, I will speak  
**President Van Woert.** on the subject.

(Dr. Babcock took the chair.)

I want to say first that the subject is extremely  
**President Van Woert.** interesting and instructive, and was presented in a manner that makes it very intelligible. I am not in a position to discuss the pathological condition as presented by Dr. Squire, but I was very much struck with one of the slides in particular in which he showed amalgam fillings that were exceedingly imperfect. I was led to believe that this was oftener so than otherwise, when I first began filling in impressions for amalgam dies for inlay work. If we could go



## SOCIETY DISCUSSIONS

back twenty-five years and dissect the teeth with the amalgam fillings which were placed in those days and up to the time when I think the filling in of compound impressions with amalgam became somewhat the vogue, we would all learn that we had placed many amalgam fillings that were decidedly defective. The probabilities are that that might be a cause of many of the other troubles that came to us afterwards.

As to the question of radiography, I am very much in doubt as to the possibility of diagnosing such cases as brought out by the essayist and Dr. Vaughan. I have yet to see a typical case of pulp-stone or nodule that showed in a radiograph. That may possibly be because the radiographs that were taken by me personally, or taken in my office; but I might also say that I have not seen a radiograph made in any other office that showed a decided pulp-stone. On the other hand, I have seen a great many of them that showed what appeared to be the entire obliteration of a pulp canal or pulp chamber. Note that I qualify my statement by saying "what appeared to be," and the case cited by the last speaker, where the radiograph showed a thickening of the bone in that area, would lead me to believe there was possibly a defect in the posing for the picture. I think I can prove by negatives in my possession that it is possible to mistake a condition of that kind in the large majority of the cases where radiographs are made. If that is true, it becomes a question as to the value of the radiograph. On the other hand, I believe that a man who is doing radiography continually, who knows something of what he is looking for, who knows something of the pose and position for the picture, will find that radiography is one of the greatest boons the dental profession has ever had. There is nothing more misleading than a radiograph, unless one understands the reading of it; and I know, also, that the man who understands the reading of a radiograph must pose it himself to get the safest information. If a picture is taken in my office to-day, and handed to a man who is familiar with radiography, I doubt if he can get as good a reading from it as I would. On the other hand, it would be just as impossible for me to diagnose a case from a radiograph from his office. I think the distance the film is posed from the object to be depicted upon the film makes one difference; and there are so many complications that the man should better make the radiograph himself in all cases. (The President then resumed the chair.)

**Dr. Babcock.**

About three or four years ago, Dr. Louis Jack read a paper before the Institute of Stomatology. It was rather an anniversary paper of the same subject which he had read before the society about ten years previously. He spoke of using little metallic caps where there was a close proximity to exposure, and then he



## ITEMS OF INTEREST

would test the teeth afterwards to see whether they were going uphill or downhill, and recording that accurately, he would find out whether he was gaining or losing.

Dr. Squire said, I believe, that after a certain age if we were to apply crowns, it was probably wiser to devitalize the pulp. I am not quite sure about that, and would like to be sure whether he made that statement.

I cannot resist the temptation to say a few words.

**Dr. Voelcker.** Dr. Babcock anticipated me, as I wished to bring up that particular point. Can there be any doubt in the mind of any gentleman present here to-night, that if an amalgam filling will cause the amount of pulp degeneration that we saw illustrated in the slides, that a crown, no matter how well fitted over a vital tooth, will cause the same condition in a much more aggravated state? It simply brings out more clearly than ever (and I say this at the risk of opening a very acrimonious discussion), that it should be an absolute rule, and a definitely settled practice for any man who puts on a gold crown to first devitalize the pulp. I go further than that in my own practice, from an experience I have had in the last two years, and take out the pulps from teeth around which I place clasp bands on plates. Some neuralgias, which we cannot trace easily, might be caused by that.

**Dr. Ash.** I just want to touch on one point that was mentioned by the essayist, but which has not been spoken of, and that is the question of neuralgia caused by pyorrhea. I have had two cases, within the last three weeks, where there was intense suffering from neuralgia. I was led to believe by an examination of the mouths that pyorrhea was the primary cause of the neuralgia and I told the patients so. In both cases they were very skeptical about it. I assured them that that was my belief, and if they were going to put themselves in my hands for treatment, that would be the course I would pursue—to treat the pyorrhea. I was very much pleased to find both cases clear up and show a nice healthful condition of the gums within a very short time after treatment, and the neuralgia, which had been constant for some five or six weeks in one case, and intermittently for several months in the other, were both entirely eliminated. In the case of the patient who had been suffering for several months, there had never at any time been an interval of relief from pain for more than two or three hours at a time, during the last four or five months. For nearly three weeks now, that patient has had absolutely no neuralgic pains.

**Dr. Brandt.** It is very evident from all the discussion, and from the essayist's paper, that a great proportion of cases of neuralgia are due to the teeth; but the



## SOCIETY DISCUSSIONS

trouble is that the physicians are treating these cases for tic douloureux. If they would consult with the dentist, the dentist would look for the trouble and try to eliminate all dental causes.

The question was asked by Dr. Vaughan whether  
**Dr. Squire.** I think that a secondary deposit of dentin would cause more irritation to the pulp than pulp-stones.

I should say that would depend upon the extent of secondary dentin formed—that is, the severity of the irritation; because we have many conditions of vital teeth with pulp-stones, without any apparent trouble, and they remain in the jaws for years. It is simply a case of over-stimulation of the pulp to a point of weakening it, as far as its functional activity is concerned.

These cases I showed on the screen were teeth I collected from one of the so-called dental parlors in Buffalo, and they were ground up and the slides made. Something which I wished to show you, but was disappointed in, was the pulp degeneration due to age. I had teeth selected from 20 years to 70 years, and in my hurry to get them through, I spoiled so many that I could not show them. I can prove, however, that the pulp degenerates as the patient grows older—that its resistant powers are lessened, and the pulp chamber grows smaller until it is finally obliterated. I had a case not long ago which might be of interest, since pericementitis was mentioned in the discussion, in an upper third molar, the pain being all reflected to the crown of the head. The patient in this instance did not complain about soreness of any of the teeth. I found a second bicuspid that did not respond readily to heat and cold. It was filled with a large amalgam filling without any insulation. I took this out and found that, while the pulp was in a degenerated state, it was not the cause of this trouble. The tender points were over the eye and over the bicuspid. I was obliged to advise the extraction of the third molar, which was affected with pyorrhea, and it seemed to me the irritation was at that point. The trouble cleared up after the tooth was removed.

Dr. Babcock understood me correctly, that I believe after forty years of age, in the majority of cases, I would take out the pulp before placing large approximal fillings of gold or amalgam, or porcelain shell or gold shell crowns. I have a case in mind of a porcelain jacket on a central incisor, which was placed about five years ago. The man is now sixty years old and is suffering with neuralgia. Upon opening through this porcelain shell, I found just a little remnant of pulp at the apical third of the root. I cut through all that secondary dentin, with danger of going through the side of the root and other risks, because I am never practically sure what I will do under those conditions. The neuralgia immediately stopped upon removing this little fragment of pulp. That seemed to





## ITEMS OF INTEREST

me still more proof that we should devitalize teeth before crowning them. I do not think that even porcelain is a sufficient insulator for the pulp under those conditions.

Of course, we have all read of the case of dementia in a patient about forty or forty-five years, mentioned by Dr. Upton, of Cleveland, who has made this form of insanity a close study, in regard to being caused by dental lesions, impactions, etc. I think it is not good practice, with the light we have now, after the tooth has been developed and the typical demand of the tooth has been satisfied. I see no reason why we should have a cap with a live pulp in patients of that age. If the tooth and its roots are properly filled, it will last just as long.

In regard to pyorrhea, in these slides which I had prepared, I found the same irritation forming the same constructive diseases of the pulp which were noticed on the screen from the fillings.

I wish to thank you for the pleasure I have had in coming here, and for the kind reception my paper has received, and for the kind things you have all said in discussing it. I want to assure you that I have had a tip-top time, so far. I have been taken in charge of by your committee, have ridden over the earth, on the earth, and under the earth since I have been here, and had a very swift ride in a taxicab—and that is pretty good sport for a man from Buffalo.

**Dr. Babcock.** I wish Dr. Vaughan would answer the question I asked.

**Dr. Vaughan.** According to the work that has been done on this subject, I can only report some findings by a neuropathologist and there is no unanimity of opinion at all. Some have found degeneration of the Gasserian ganglion with the loss of many of the nerve-cells, and the replacement by interstitial tissue. Other cases have been considered of dental origin, probably arising from the nucleus of the nerve groups. Then, again, others have found degeneration of the nervous cell, with loss and replacement of the active cylinders by interstitial tissue, even before any operative attempts or dissections had been made. The point I wanted to make is that, undoubtedly, tic douloureux is distinct from the reflex neuralgia from other causes. There may be cases arising from general intoxications—from chronic diseases, or possibly from alcoholic poisons or various toxins—that may produce an effect on the ganglion or on the central irritant of the nerves. There is no definite proof that is accepted. Certain cases have been found so degenerated, and others have not.

Dr. Voelcker moved a very hearty vote of thanks to the essayist, and to Dr. Vaughan for his discussion, which was unanimously carried.

Adjournment.





The editorial in the issue of *ITEMS OF INTEREST* for October, 1910, has brought several replies, which are published in this issue.

Dr. Wentworth Holmes agrees with the sentiment expressed in the editorial to the effect that the dental profession has not yet made municipal authorities clearly appreciate the necessity for public dental clinics, and he very pertinently expresses the truth when he says: "This is a trial, not of dental clinics but of the dental profession."

Dr. Holmes has evidently misunderstood the editorial in part, for he continues as follows:

**Gold and  
Porcelain in  
Public Clinics.**

"Does the school child sent to a dental clinic receive 'the acme of professional dental attention?' Is the filling of temporary teeth with gold and porcelain 'the acme of dental attention?' Is a child of from five to ten years of age as capable of enduring the rubber dam for an hour's sitting as an adult? Do parents give their children gold watches when silver watches will keep as good time, the works being the same?"

If the writer points out the sophistry of the above arguments it is hoped that Dr. Holmes will understand that it is done in the interest of



## ITEMS OF INTEREST

the great cause, and not to prove the editor's views, nor to disprove those of Dr. Holmes.

First then, the editorial under discussion made no plea for the filling of temporary teeth, either with gold or with porcelain. Do not children have permanent teeth needing fillings? The query was in this form: "Are gold fillings inserted free? or porcelain placed in the more conspicuous places?" This is far from suggesting that temporary teeth should be filled with gold or with porcelain, and still farther from any declaration that amalgam should not be utilized. The point intended to be brought out is that gold and porcelain should be used in the free clinic in exactly the same ratio to amalgam as they are used in private practice. Or in other words, the dentist when serving the poor should follow the example of his brother the physician, and render the same service in the clinic room as he does in his private office.

### **Use of the Rubber Dam.**

As to a child being as able to endure the rubber dam for an hour as an adult, the answer is that many children are much more tractable than their parents. But this is begging the question, since it is almost never necessary to keep the dam on a child's tooth for an hour. Presumably Dr. Holmes is thinking of gold foil fillings when he talks of the need of the dam, but if we practice our profession properly, we would recognize that it is just as necessary to apply the rubber dam for amalgam as for gold. Moreover, so far as the actual insertion of a filling is concerned the dam need never be kept on any tooth for more than half an hour, because if a cavity be so large that a gold foil filling cannot be inserted in half an hour, that cavity would be better filled with an inlay. We are not here discussing the need of using the rubber dam for root canal treatment, which might well occupy more than an hour, because such treatment would be the same, and should be conducted with the same aseptic precautions whether the final filling be gold, porcelain or amalgam.

### **Gold Versus Amalgam.**

"Do parents give children gold watches when silver watches will keep as good time, the works being the same?" A profitable sermon could be preached to this text. Presumably Dr. Holmes wishes to convey the following idea: "Do parents have their children's teeth filled with gold when amalgam will save the teeth as well?" Let us reverse this and





ask Dr. Holmes a question: "If amalgam will save a tooth as well as gold, why do you ever use gold?" There is but one reply to this from an ethical practitioner who does not fill teeth for the sake of the fee rather than for the salvation of the organ itself, and that answer is that, "There are places where gold will save teeth better than amalgam." If this be true in private practice, it is likewise true in the clinic room, and consequently we are not giving the poor "the acme of professional attention" if gold is barred entirely.

Further on Dr. Holmes asks: "Is that operator "morally debased" when he fills a similar cavity with amalgam for a patient who refuses to pay for gold?" Such an operator certainly does debase himself by such action; as much so as when he fills a tooth with gold because his patient will pay for gold, when he knows, or believes, that amalgam will save the tooth quite as well.

In other words, it is high time that the use of amalgam or gold or porcelain should cease to depend upon the patient's willingness, or ability to pay, and should be determined by the necessities of case under treatment. What would we think of a physician who denied his patient the benefit of an expensive drug because the sick man did not have the price of the best remedy?

It is pleasant to learn from Dr. Hinman's communication that there is one clinic room where gold is not barred.

Dr. Merritt's communication should be studiously considered, as he has unselfishly devoted years of his time in conscientiously working for the poor, and few men have a better grasp of the actual needs of this class of patients. Like Dr. Holmes, Dr. Merritt comes out in defense of amalgam. He thinks that the writer underrates the value of amalgam for saving teeth, and adds that it has been claimed that ninety per cent. of molars and bicuspid are filled with amalgam, and that "Nevertheless, these teeth are saved and (a thing not to be overlooked) by a method less painful, less expensive and less protracted, all of which should receive consideration in dental dispensary work."

It may be true that ninety per cent. of cavities in molars and bicuspid are filled with amalgam, but it certainly is not true that these teeth are "saved," in the sense that they would be saved if properly filled with gold. If the truth could be known, the probabilities are that fully ninety



## ITEMS OF INTEREST

per cent. of these amalgam fillings permit recurrence of caries within five years. The writer is strongly tempted to undertake the task of proving this statement if only to persuade the dental world that the easiest way is not always the best way.

But if expense must be considered, it is not necessarily true that amalgam is either a less painful or a less protracted method than gold, for no amalgam filling, properly inserted, causes less pain in the preparation of the cavity than does the preparation of the same cavity for a gold inlay, and the placing of an inlay is no more protracted than the placing of an amalgam filling plus the polishing of the amalgam, which should be done at a subsequent sitting.

### **Cast Alloy Inlays.**

If expense must be considered in the dental clinic room, let it be known that the best and cheapest method of using amalgam is to save the cost of the mercury, purchase the alloy in bulk, and fill the teeth with cast alloy inlays. In this way we will have the benefit of the cement lining to the cavity, and what is more important, we may prepare the cavities with proper extension for prevention, and with proper marginal protection, since the alloy is inserted hard, whereas the amalgam is inserted in a plastic condition. Moreover, the edge strength to the cast alloy is greater than can be had with amalgam.

It is gratifying to know that the proposition made in the October editorial is to be tested out. Twenty-five Connecticut dentists have arranged with the authorities to take entire dental charge of fifty children for one year, the services to be rendered to the children in their own offices, and to be of the same standard as for private patients. They hope, and undoubtedly they will be able, to show that a properly cared for mouth will make a healthier child and a better pupil.

Finally, we would ask our readers to consider carefully the proposition outlined by Dr. Fones, whose solution of the school clinic problem includes the very best plan yet presented.





## Navy Bill Favorably Reported.

The Bill to provide dental services in the Navy, copy of which appears below, was favorably reported in the House of Representatives on December 7th by the Committee on Naval Affairs. Every dentist who is interested in seeing our dental surgeons have rank should use his utmost endeavor with his representatives in Congress to pass this Bill, especially as it would undoubtedly lead to similar action for the dentists in the Army.

The following is a copy of the Bill as favorably reported:

### IN THE HOUSE OF REPRESENTATIVES.

*61st Congress, First Session.*

APRIL 7, 1909.

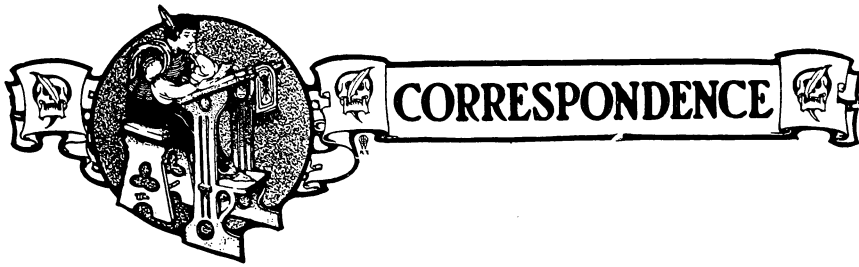
Mr. Dawson introduced the following bill; which was referred to the Committee on Naval Affairs and ordered to be printed.

A BILL, H. R. 6741.

Authorizing the appointment of dental surgeons in the navy.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the President be, and he is hereby, authorized to appoint dental surgeons to serve the officers and enlisted men of the Navy and Marine Corps, not to exceed thirty in all. Said dental surgeons shall be attached to the Medical Department of the navy; shall have the rank and compensation of acting assistant surgeons in the navy; shall be graduates of standard dental colleges, trained in the several branches of dentistry; within the age limits of twenty-four and thirty-five years; of good moral character and professional standing, and shall pass a physical and professional examination; and their appointment shall be for a term of years and revocable at the pleasure of the President: Provided, That the dentist now employed at the Naval Academy shall not be displaced by the operation of this Act: And provided further, That the rank of acting assistant surgeon shall carry the like pay and allowances of the rank of assistant surgeon; and all dental surgeons, after three years' service from the date of their first appointment, if mentally, morally, professionally, and physically qualified, shall be eligible for re-appointment as dental surgeons in the United States Navy with the rank of assistant surgeon.*





## Public Dental Service for Children.

Editor ITEMS OF INTEREST:

*Dear Sir*—An editorial in the ITEMS OF INTEREST for October, 1910, asks a number of questions which have prompted the writer to ask other questions, and which suggest some thoughts that demand expression.

### Attitude of Municipal Officers.

Regarding the "stupidity—of municipal officers."

When dental clinics were first talked of in our city, the Board of Health, when asked for support, gave little heed to the request. The Board of Education, on the contrary, were willing to listen to our demands, and the individual members of that Board exhibited considerable interest in the movement. The individual members of the Common Council likewise expressed a desire to aid the undertaking. Considering that these bodies of men are beset with appeals for support of new ideas, some reasonable, and a great many unreasonable, to say nothing of the vast amount of municipal business which they have to carry out, it would be unfair to them to complain of their stupidity because they did not immediately approve and make appropriation for a new proposition which was entirely strange to them. All municipal bodies work hard to pass such acts as will best please their constituents, and in most cases the public generally. Do not all good objects, properly endorsed, elucidated, and prepared to meet all legal requirements, presented to these bodies for careful consideration by a well organized support eventually become law? Is the difficulty then in gaining municipal approval of dental clinics due to stupidity of the governing bodies or due to the lack of proper endorsement and support of such movement by those who present it? You are right in saying, "We have not yet made them see clearly—our dental demands." Let the dental profession take heed that they do "see."

### The Dental Profession on Trial.

In the paragraph on "The Physicians," another truth is expressed. These Commissioners—"trust the doctor; they know him and his works." Is it not true that that trust is the result of years of arduous work on the part of the medical profession? "Do



## CORRESPONDENCE

they know and trust the dentist?" No. Nor will they for some years to come. The dental profession must prove itself. It is on trial now in a great many cities. This is a trial, not of dental clinics, but of the dental profession.

### **The Use of Cheap Materials.**

Does the school child sent to a dental clinic "receive the acme of professional dental attention?" Is the filling of temporary teeth with gold and porcelain the "acme of professional dental attention?" Is a child of from five to ten years of age as capable of enduring the rubber dam for an hour's sitting as an adult? Do parents give their children gold watches when silver watches will keep as good time, the works being the same?

The operator who replied, "The child is better off with an amalgam filling than with none at all," did not place much value on his own ability to effectually stop caries and restore lost parts with amalgam. Is that operator "morally debased" when he fills a similar cavity with amalgam for an adult who refuses to pay for a gold filling? The case of the physician half curing a case of diphtheria is not a parallel. It would be were the dentist to fill half the cavities in a child's mouth and discharge the patient without filling the remaining cavities.

### **The Attitude of Dentists Towards Children.**

"In the matter of the dental treatment of children the profession as a whole is not alone derelict when operating for the poor, but almost equally so in their own offices." This is a statement which cannot be denied. Then follows, in the editorial, a list of questions which are very "pertinent," and which should be considered and answered with care, and he who would answer them must be able to solve some of the greatest problems of dentistry. And the unfortunate part of it is that the writer of the editorial probably wrote from an extensive knowledge of the teeth of such children as apply for treatment at a private dental office. What then would he have written and felt had he examined the teeth of poor children at a public clinic? A large percentage of the teeth of such children are absolutely beyond repair. It is not a question of gold, porcelain, amalgam nor even cement. And yet every dental surgeon knows the evil result of extraction of these teeth. But here is where the decision must be made. Should extraction be resorted to or the old decayed roots be allowed to remain until the eruption of the permanent teeth? "Is it laziness or incompetency?" It is rarely either, though it is more often incompetency, or a better word would be indecision.

And if any man does know any rule for such conditions as are met





## ITEMS OF INTEREST

with at the dental clinics of this city, he will assure himself of a lasting appreciation by his fellow workers if he will set it down where all can benefit by it.

### **How to Obtain Municipal Free Clinics.**

The editorial continues, "How best to achieve our aim cannot be discussed here," though one suggestion is given. The fact of the matter is that no one knows "how best to achieve our aim." It is different in the various localities. But one thing is sure—the city officials, the parents of the school children, the children themselves, will never lead this movement for dental clinics. Nor will it achieve its place in public economy in one year nor in five. All things grow by evolution. As is previously stated the dental profession is on trial. It is not a question of methods of filling in our city. It is a question of the sincerity and support of the dental profession. The Board of Education, the Common Council, and I doubt not even the Board of Health at this time, together with the charitable organizations and a minority of the profession in this city, are willing to try out a plan or plans; in fact, are trying out a plan for dental clinics and the men who were looked upon as most likely to help,—every dentist in the city,—have been the men who show least enthusiasm. The dental profession is on trial. Some few are striving, some few are opposing, and the majority are selfishly indifferent to this great work. Where is the so-called ethical, charitable, unselfish, professional spirit of the dental profession? Perhaps it has not yet awakened. If every ethical dentist in the country worked for dental clinics and dental examinations in public schools, there would be no trouble with public officials, and the smaller details would soon be worked out.

Make no criticism of those who are striving, but do not excuse those who will do nothing to benefit the poor and needy of our country.

WENTWORTH HOLMES.

Newark, N. J.

---

### *Editor of ITEMS OF INTEREST:*

DEAR SIR—Your editorial in the ITEMS OF INTEREST for October, on "Public and Private Dental Services for Children," I have read with much interest, the more so since it has been my privilege to have a part in the dental dispensary work of this city since 1903, several years of which time I have devoted one-half day of each week to this work among children which has afforded an excellent opportunity for studying the problem as it is actually related to the child who must depend upon the dental





## CORRESPONDENCE

clinic if its teeth are to be saved. In the light of this experience, I cannot believe that the position taken by you in this editorial is either practicable or rational. Let me say here that in disagreeing with you I have not the slightest wish to be arbitrary or critical, realizing full well that you have quite as much right to your opinion as I have to mine, and that you may be right in yours and I wrong in mine. I am a firm believer in ideals, and appreciate those with which your editorial bristles, but I have long since learned that however reluctant one may be to do so, it is usually the part of wisdom to worship "the god of things as they are." I doubt not that it is an excellent thing to occasionally "hitch your wagon to a star," but to keep it hitched to a star, when all about you there are those having need of you and your wagon, is neither the part of wisdom nor of reason.

To corral the ten million children of this country who are in need of dental attention (one-half of whom will receive none whatever except as the beneficiaries of the dental clinic), and fill their teeth with gold and porcelain, would be a splendid charity, and worthy of the efforts of the dental profession, and if this were Utopia, instead of the United States of America in 1910, it might be possible. In this world, however, where according to prophecy "the poor are always with you," and it might have been added, "are always afflicted with decaying teeth," some other course more nearly within the possibilities of human achievement must be considered. You cannot satisfactorily fill teeth with ideals or editorials, however excellent either may be in its place, and I grant you that both have their legitimate place in the problem under discussion.

My reasons for questioning the practicability of your suggestions are: First, the vast number of children in need of dental treatment who must depend upon the public clinics if they are to save their teeth, amounting in this city alone to not less than a quarter of a million children. Second, the amount of time involved in operations such as you suggest, thereby greatly limiting the number of children who can receive treatment. Third, the wisdom of subjecting children, such as patronize the dental clinics, to the strain of gold and porcelain operations. Fourth, the very limited number of men of ability and experience who are willing to engage in such work. Fifth, the probable unwillingness of a municipality or charitable organization to bear the expense incidental to the equipment and maintenance of clinics such as you suggest. Sixth, because I do not believe it to be the duty of such clinics to relieve the parent or child of all responsibility in these matters, but rather to give to the child such treatment as is necessary to preserve the teeth until he becomes a wage earner, teaching him meanwhile the importance of mouth hygiene.



## ITEMS OF INTEREST

### **Amalgam.**

I believe, moreover, that you greatly underestimate the value of amalgam in the saving of teeth. It has been said, and it is probably true, that not less than 90% of the fillings made in the molars and bicuspid (where the filling is not visible), is amalgam. Nevertheless the teeth are saved, and, (a thing which should not be overlooked), by a method less painful, less expensive, and less protracted, all of which should receive consideration in dental dispensary work among children.

### **Physician and Dentist Compared.**

I am always glad to see tribute paid to the public spirited efforts of the physician, which no one denies is of a high order. This is the age of the medical man. It is he, and not the priest who is to-day the family confessor. We have been taught from infancy to reverence the family doctor. But these things ought not to blind us to the fact that to the medical profession, in larger measure than to any other profession, has been given the opportunity for the performance of that kind of service which, more than any other, makes a strong appeal to public sympathy, *viz.*, the relief of human suffering. This is their duty, and for this they have been fitted by education. Shall we, therefore, condemn the legal or dental profession because their training has not fitted them to perform the duties of the physician? They have each their work to perform, and because it differs from that of the physician is it necessarily less important? Has not the public also need of these? "The eye cannot say unto the hand, I have no need of thee; nor, again, the head to the feet, I have no need of you." Do you believe, Mr. Editor, that if the dental profession had been educated in the practice of medicine, the medical profession of to-day would have been less public-spirited than it is; or, similarly, if the physicians of to-day had engaged in the practice of dentistry, would they have been less likely to escape the criticism which you visit upon the dental profession in your editorial? I do not believe that the line between selfishness and unselfishness is a professional one. Human nature is much alike, irrespective of professional affiliations. To compare the services of the dentist in his relation to the public, with those of the physician, is unfair. It must not be forgotten that, while they are engaged in a related calling, it is nevertheless a different calling, making demands upon those who follow it wholly unlike those made upon the medical man.

Should this fact not be taken into consideration in passing judgment upon their shortcomings? No one will deny that the dental profession has, to a certain extent, failed in its duty toward those unable to pay for their services. They have done and are doing, less than their duty, much less. But, while admitting this to be true, it is manifestly unfair





## CORRESPONDENCE

to compare their duty in this respect with that of the physician, to the disparagement of the dentist, for the simple reason that the dentist is engaged in a calling, the conditions of which are totally unlike those of the medical man. The nature of his work is exacting, arduous and confining, and limited to about seven hours per day. Every hour given to dispensary work is an hour deducted from his working time. There is little that is of clinical interest in such work among school children. The conditions of neglect which are met with are discouraging beyond belief, consuming an immense amount of time, often with little tangible result. The amount of time involved in the treatment of a non-vital tooth will exceed that for an operation for appendicitis. In the first instance, a tooth has been saved; in the second, a life. Except in the case of recent graduates, there can be but one motive in engaging in such work, and that, an unselfish public spirit. Experience has shown that this is not an universal attribute of human nature. An unprejudiced study of this feature of our public service will reveal the fact that it is not altogether altruistic, and this may be said without in the least detracting from its value. In fact it is most fortunate when those who serve and those who accept the service can combine upon a common ground of mutual advantage. To a very large extent this is the relation which exists between the physician and that part of the public unable to pay for his services. He can devote several hours of each day to hospital work without materially interfering with his private practice; he obtains a valuable clinical experience, one which is absolutely essential to the highest success, and last, but by no means least, he has the prestige which is inseparable from a hospital connection. Thus it will be seen that both he who serves and he who accepts the service is, to a considerable extent, mutually benefited. There are rewards which cannot be measured in terms of dollars and cents, but which are none the less tangible.

Your comparison of the child suffering from caries with one suffering from diphtheria is invidious. There is no comparison. If not properly cared for, the first child may lose his teeth; the second will probably lose his life. The first may become a useful citizen in spite of his misfortune; the second, a public menace, endangering the health of the whole community.

Your suggestion to select from the schools a number of defective children and provide them with adequate dental treatment is an excellent one, and well worthy a trial. I question, however, whether it would prove anything. It is doubtful whether the condition which you describe can be traced to any one thing, such as an unclean mouth, however important a factor that may be in the treatment of such cases. I have no doubt whatever that the unsanitary condition of the mouth which pre-



## ITEMS OF INTEREST

vails among the children of our public schools is a serious handicap to physical efficiency. I believe also that it is the duty of the dentist to do what he can to relieve this particular condition, just as I believe it is the duty of the physician to cope with such other physical disqualifications as the child may have, or that of the state or municipality through its tenement-house laws to provide better housing, etc.

It is only through intelligent co-operation, based on common sense methods, that the problem of the defective child can ever hope to be solved.

Very truly yours,

ARTHUR H. MERRITT.

New York City, Nov. 6, 1910.

---

*Editor* ITEMS OF INTEREST:

DEAR SIR—In reference to your editorial about the placing of the proper material in the mouths of charity patients, I would say that I heartily agree with the stand you have taken.

I organized and am chief of the staff that takes care of the mouths of the children in the Jewish Orphans' Home here, and one of the requirements is that gold should be placed where indicated. In this I am supported by the superintendent of the institution. We have also recently employed an "interne," who is in regular attendance, to take care of the emergency cases and to do the general work that the children require.

Very truly yours,

THOS. P. HINMAN,

Atlanta, Ga., Nov. 15, 1910.

---

## Can We Check the Flood?

*Editor* ITEMS OF INTEREST:

The problem that now confronts the Board of Health, the Board of Education, and the local Dental Society of every progressive city in the United States, is: How can the mouths and teeth of our school children be saved?

Like an immense flood, dental caries has come in with civilization, and that flood has now become so great that the thirty-five thousand dentists of this country, practicing chiefly along the lines of repairing damages, might just as well try to sweep back the ocean with a broom, as to try to confine their efforts to operative work alone.

Less than ten millions of people, out of the one hundred millions in this country, pay any attention to their teeth, except to have them out





## CORRESPONDENCE



when they ache. Dental caries is the most prevalent disease known. In our public schools dental decay will vary among the children from seventy to ninety-five per cent.—the lower per cent. being found in schools attended by foreigners. This means that out of one hundred school children, picked at random, hardly ten could be found with sound teeth. It means that in a city where there are twelve thousand school children, there are at least fifty thousand cavities that need filling in the teeth of these children. In a city of one hundred thousand people, the number of decayed surfaces of the teeth would easily reach half a million. Why! if all the thirty-five thousand dentists of the United States should concentrate their entire efforts upon the people of Greater New York, it would take them a full two years to restore the mouths to a sound and healthy condition. But this is not all. Suppose it were possible to restore all these mouths to a sound and healthy condition,—in less than five years a new crop of thousands and thousands of cavities would have again developed. Why? Because the dentist has made but little effort to treat and educate his patients along the lines of prevention. Instead of holding each mouth restored to a system of supervision, treatment and cleanliness, he goes on and on with his endless task of filling and repairing teeth. But he is not wholly to blame. His practice is a full one, the demands on his time are such that he cannot put his patients through a system of prophylaxis or preventive treatment, and, more than all, he knows of no place where he can secure trained assistants along these lines. If it were possible to hire a dental nurse, educated and skilled in this prophylaxis work, hundreds of dentists would avail themselves of such a privilege. What an immense field is here open for women of intelligence. An interesting and educational work commanding both respect and a good salary. Eventually, every dentist of any standing will be obliged to have the means in his office whereby at a nominal price, his patients can be carried along through a system of cleanliness that will prevent future dental troubles.

### **The Ideal School Clinic.**

Let us now look again at our public school problem. In the first place, I believe that this service is woman's work. Let us suppose that this picture exists, and then we will discuss its possibilities. In a city of one hundred thousand people, a room in one of the largest school buildings is equipped with fifteen dental chairs, dental brackets, compressed air, wash-bowls in center of room, sterilizers, etc. Beside these chairs stand fifteen women all dressed in white. Two of them are dental graduates and are licensed to practice dentistry. The other thirteen are assistants, and are being trained as dental nurses. The duties of the two women graduates are to relieve the sufferings from toothache of any of



## ITEMS OF INTEREST

the poor children in the schools, and also to fill as many cavities with cement, alloy and gutta percha as they are able to do. The thirteen nurses are supplied with patients by teachers in the various rooms, who select those most worthy and least able to pay for dental services,—these children to be put through a system of cleanliness and education to prevent further dental troubles. Every two months each child appears for inspection; the teeth are thoroughly polished with the orange-wood sticks; special instructions in brushing given; brushes furnished to those unable to buy; a card system kept for reference; in fact, every effort made to establish among the children the habit of maintaining clean mouths. At least once a month one of the graduates, or some one appointed for the purpose, gives a talk or lecture on oral hygiene and the care of the teeth before the classes in the school-rooms.

With such a system prevailing there would be, in five years' time, some chance of getting control of the flood of decay, and I believe in ten years' time the percentage figures could almost be reversed. But the Boards of Aldermen, the Boards of Apportionment, the Boards of Education, are like the man from Missouri—they must be shown. Demonstrate such a system of cleanliness and education even in a small way, for a period of two years, and there would be little trouble to secure appropriations to maintain the work, but the initial expense must be bridged by some philanthropic person or supported by the local dental society. This could be started in a small and modest way.

I believe it is possible to secure the services of the dental nurses free for the first year, as it would be a period of instruction and education for them, fitting them for good salaried positions in dental offices. Arrangements could be made so that they could attend certain lectures, either in hospitals with the nurses' course, in the larger cities at the dental colleges, and also by men appointed by the local dental society to talk to them on oral hygiene.

If this plan can be developed on practical lines, we will have the question of our public clinics for school children solved in a few years. We would have trained assistants available for the establishment of a chair for prophylaxis in every dental office. The children would be taking their lessons on oral hygiene home with them, and would in turn educate their parents on the importance of clean and healthy mouths, and instead of our dental colleges turning out but four thousand graduates a year, the country would need ten thousand to take care of the great ninety per cent. who need their children to tell them how to maintain their teeth and health by cleanliness.

ALFRED C. FONES, D.D.S.

December 2, 1910, Bridgeport, Conn.





## Dentists Appointed as Lecturers on State Board of Health.

*Editor* ITEMS OF INTEREST:

Received the following telegram last Wednesday which speaks for itself:

"ALBANY, N. Y., December 7, 1910.

"DR. W. G. EBERSOLE,  
Southern Hotel, Columbus, O.

"Dr. H. L. Wheeler, of New York City, and Dr. W. A. White, of Phelps, were to-day appointed by me as lecturers on Oral Hygiene for the State Department of Health.

(Signed)

"EUGENE H. PORTER,  
Commissioner of Health."

This is the first recognition of this kind that has been given to dentistry in this country, and is the direct outcome of the Annual Conference of Health officers of New York State which was held at Buffalo, November 16th, at which time the writer addressed the Conference upon the subject of "Public Health and the Dental Profession," which was discussed by Dr. W. A. White, of Phelps, N. Y., and Dr. W. W. Belcher, of Rochester.

These appointments are the indirect result of the Opening of the Oral Hygiene Campaign of the National Dental Association, which was held in Cleveland on March 18th last.

Dr. W. A. White is a member of the Oral Hygiene Committee of the National Dental Association, and it is due to his activities in this direction more than to any other man that we were able to bring about these appointments. Dr. Wheeler is a member of the International Committee and has been very active for years in New York City in the oral hygiene field.

The acceptance of these appointments, as lecturers and consultants, by these men means that they do so at considerable sacrifice, for it is not at all probable that the State will pay them for their services an amount which they could equal by confining their time to their practice.

The above telegram by Commissioner Porter was received just one year from the day the Ohio State Dental Society appropriated \$500 for the spreading of the Oral Hygiene propaganda. The effect produced by the reading of the telegram was such that immediately following same Ohio voted to give its Committee another \$500.00 and voted \$100.00 to the support of the National Education and Information Bureau. This is the first contribution made by a dental organization to the support of the Oral Hygiene Campaign of the National Dental Association.

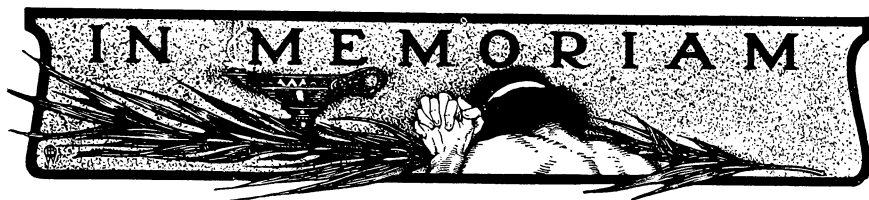
It is the desire of the writer that the dental journals of this country announce the above appointments and that they laud the broadness and up-to-dateness of Commissioner Porter in making these appointments.

Deputy Commissioner Wm. A. Howe, who is a fellow townsman of Dr. W. A. White, deserves honorable mention in this connection, because it was through Dr. Howe that Dr. White was able to direct the attention of the Health Officers of New York State to this important question.

I trust that this reaches you early enough for the January issue of your journal.

Sincerely yours, W. G. EBERSOLE.





## **Dr. S. D. Brower.**

### **Resolutions of the Iowa State Board of Dental Examiners.**

It is with sincere regret that we, the Board of Dental Examiners of the State of Iowa, must chronicle the passing of Dr. E. D. Brower, who has been our efficient secretary for so many years; and, whereas, it is our firm conviction that, in the death of Dr. Brower the Board of Dental Examiners has lost a faithful and efficient secretary, and the dental profession of Iowa a valued and tireless worker for its advancement, be it resolved, that we do hereby express our personal loss at his removal from our circle and, in this manner, convey to the profession at large our appreciation of his services in the interest of higher dentistry; and to his bereaved wife and daughter our sincere sympathy in their hour of sorrow.

(Signed)

F. H. RULE,  
J. A. WEST,  
G. N. BEEMER,  
T. F. COOKE.

Dr. E. D. Brower, secretary of the Iowa State Board of Dental Examiners, was born in Leesville, Carroll County, Ohio, January 15, 1858. He began the study of dentistry in 1878, with Dr. J. K. Morrison, at Ackley, Ia., and the following year entered Ann Arbor and was graduated from that school in 1881. He immediately began the practice of dentistry in Le Mars, Ia., continuing there until the time of his death. Dr. Brower was a man of no mean ability and always enjoyed a place in the company of those who were "doing things" in dentistry in Iowa. He was a genial, warm-hearted friend, a man who had the interests of the profession very much upon his heart, and who helped in the making of history in his State. He will be greatly missed in State and local societies, as well as from the Board of Dental Examiners. Dr. Brower suffered a stroke of paralysis, April 17th, from which he never recovered. Death came on Monday, October 10th, and released him from his bon-





dage to a disease that would doubtless have kept him a cripple to the end, no matter how prolonged that end might have been. Our sympathy is extended to the wife and daughter who remain to mourn the passing of a life cut off in its very prime.

---

## **Harvard Odontological Society.**

### **Memorial to Dr. George Franklin Grant.**

---

George Franklin Grant, D. M. D., was born in Oswego, N. Y., September 15, 1846, of humble parentage who, in their early youth, were slaves. His education was obtained in the public schools of his native city. At fifteen years of age he began the study of dentistry under the preceptorship of Dr. Albert Smith of Oswego, N. Y. He removed to Boston in 1867, being at that time 21 years of age. In the following year he entered the Harvard Dental School, graduating with distinction in the class of 1870. Four years later he was appointed Demonstrator of Mechanical Dentistry in the Harvard Dental School, filling that position for ten years. From 1884 to 1889 he was appointed Instructor in the Treatment of Cleft Palate and Cognate Diseases, and while occupying these positions he invented numerous devices for the correction and treatment of cleft palate. As demonstrator and instructor he served with skill and efficiency and was a most genial friend and helper to every student. In the practice of his profession he was eminently successful, numbering among his friends and patients many distinguished persons to whom his race and color were no barrier to friendship, but, in the contrary, an unusual testimonial to his many excellencies of character, as well as to his eminent professional attainments. In the treatment of cleft palate Dr. Grant was a pioneer and an acknowledged authority. His exceptional technical abilities and faculty of imparting his knowledge to others attracted to him a host of admiring and appreciative students and practitioners.

As a man, as a dentist, Dr. Grant's ideals were high. He was a true friend and keenly appreciative of real, true friendship. He had a fine sensitive and generous nature; truthful, upright, optimistic, resourceful. All these qualities he possessed in a commendable degree. Dr. Grant was blessed with a good measure of material success, by virtue of which he was enabled to assist many an impecunious young man and woman in their struggles for an existence; to whom in reply to their oft-repeated thanks he applied his favorite and simple admonition: "Now don't say anything about it; do your work as well as you can and be kind. That will be the best reward you can give me."



## ITEMS OF INTEREST

Dr. Grant was twice married. His family, therefore, brought him more than the ordinary measure of joy and sorrow. As a man, he was gentle, patient, frugal, and temperate, a most devoted husband and kind father.

Until within six months of his demise he was apparently in the enjoyment of excellent health and was daily at his post of duty. In March he suffered an attack of la grippe which later developed serious complications hastening the immediate cause of his death, cancer of the liver.

With cheerful resignation so characteristic of his optimistic temperament, he uncomplainingly accepted the inevitable and with thankfulness for the many attentions and kindnesses bestowed upon him in his last days and hours, he passed out of a life of usefulness and devotion to duty, surrounded by his family and friends, at his summer home at Chester, N. H., August 21, 1910. His funeral was solemnized from his late residence, 108 Charles St., Boston, Mass. Rev. Dr. James DeNormandie, of Roxbury, officiated and paid a fitting and lasting tribute to his useful life and noble character. His remains lie at rest in Mount Pleasant Cemetery, Arlington, Mass.

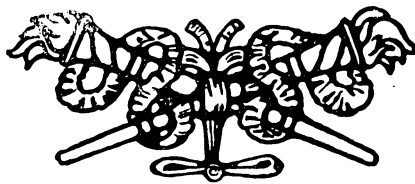
Dr. Grant was a credit to his race, to his Alma Mater and to his profession. In his death this Society and our profession have lost an able, ethical, and distinguished member, whose life and example have been a potent influence for good in our profession.

Be it resolved that this memorial be entered upon the records of this Society and an engrossed copy forwarded to his bereaved family.

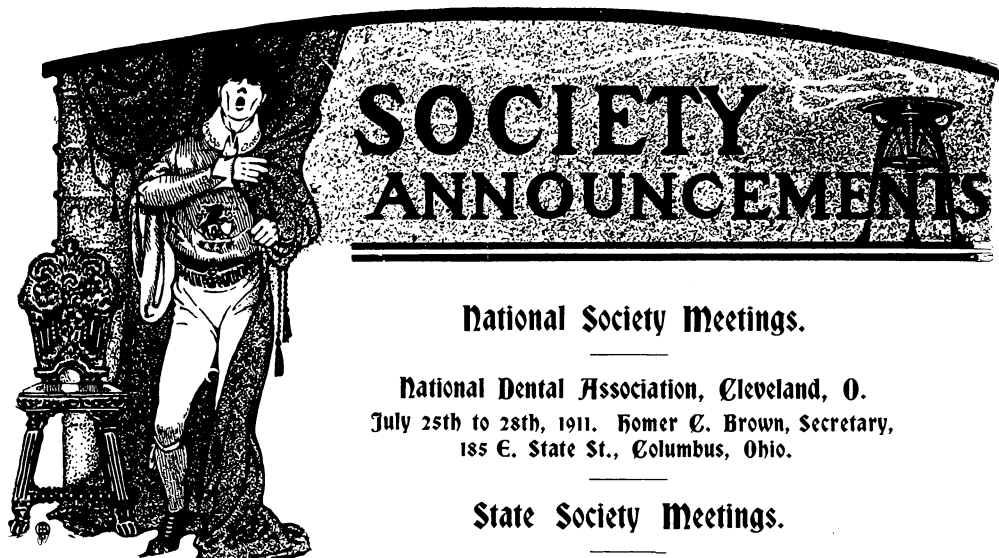
JULIUS G. W. WERNER,

WM. P. COOKE, Committee.

CHARLES G. PIKE, Secretary.







## National Society Meetings.

**National Dental Association, Cleveland, O.**  
 July 25th to 28th, 1911. Fomer C. Brown, Secretary,  
 185 E. State St., Columbus, Ohio.

## State Society Meetings.

Alabama Dental Association, Montgomery, Ala., May 9, 1911. Dr. E. W. Patten, secretary, Selma, Ala.

Arkansas State Dental Association, Pine Bluff, Ark., about the 1st of June. Dr. I. M. Sternberg, secretary, Fort Smith, Ark.

California State Dental Association, time and place of meeting not yet known. Dr. C. E. Post, secretary, 126 Stockton St., San Francisco, Cal.

Colorado State Dental Association, Boulder, Colo., date not known. Dr. Chas. A. Monroe, secretary, Willard Block, Boulder, Colo.

Connecticut State Dental Association, time and place not yet decided. Dr. Robt. H. W. Strang, secretary, Sanford Bldg., Bridgeport, Conn.

Delaware State Dental Society, time and place of meeting not yet decided. Dr. Warren Combs, secretary, 410 Delaware Ave., Wilmington, Del.

Florida State Dental Society, Pensacola, Fla., June 20, 1911. Dr. W. A. Dean, corresponding secretary, Tampa, Fla.

Georgia Dental Society, Macon, Ga., June 8, 1911. Dr. DeLos H. Hill, Grant Bldg., Atlanta, Ga.

Illinois State Dental Society, Peoria, Ill., May 9, 10, 11, 12, 1911. Dr. J. F. F. Waltz, secretary, Decatur, Ill.

Indiana State Dental Association, Indianapolis, Ind., May 16, 17, 18, 1911. Dr. Otto U. King, secretary, Huntington, Ind.

Iowa State Dental Society, Des Moines, Ia., May 2, 3, 4, 1911. Dr. W. G. Crandall, secretary, Spencer, Ia.



## ITEMS OF INTEREST

Kentucky State Dental Association, time and place of meeting not yet decided. Dr. W. M. Randall, secretary, Louisville, Ky.

Maine Dental Society, time and place of meeting not yet determined. Dr. I. E. Pendleton, secretary, Lewiston, Me.

Maryland State Dental Association, time and place of meeting not yet decided. Dr. F. F. Drew, corresponding secretary, 701 N. Howard St., Baltimore, Md.

Massachusetts Dental Society, time and place of meeting not yet decided. Dr. C. W. Rogers, secretary, 165 Harvard St., Dorchester, Mass.

Michigan State Dental Society, time and place of meeting not yet decided. Dr. Marcus L. Ward, secretary, Detroit, Mich.

Minnesota State Dental Association, time and place of meeting not yet decided. Dr. B. A. Sandy, secretary, Andrus Bldg., Minneapolis, Minn.

Mississippi Dental Association, Hattiesburg, Miss., sometime in May, 1911. Dr. L. B. Price, secretary, Corinth, Miss.

Montana State Dental Society, Helena, Mont., June 2, 3, 1911. Dr. R. H. Severance, secretary, Great Falls, Mont.

Nebraska State Dental Society, Lincoln, Neb., May 16, 17, 18, 1911. Dr. J. H. Wallace, secretary, 212 Brown Block, Omaha, Neb.

New Mexico Dental Society, time and place of meeting not yet known. Dr. L. E. Erwin, secretary, Carlsbad, New Mexico.

New Hampshire State Dental Society, time and place of meeting not yet known. Dr. Fred F. Fisher, secretary, 913 Elm St., Manchester, N. H.

North Carolina Dental Society, Morehead City, N. Car., time not decided. Dr. A. H. Fleming, president, Louisburg, N. C.

North Dakota State Dental Society, place not decided, May 11, 1911. Dr. F. A. Bricker, secretary, Fargo, N. Dak.

Ohio State Dental Society, Columbus, Ohio, December 6, 7, 8, 1910. Dr. F. R. Chapman, secretary, Schultz Bldg., Columbus, O.

Oregon State Dental Association, time and place of meeting not yet decided. Dr. F. H. Walgamot, secretary, Medical Bldg., Portland, Ore.

Pennsylvania State Dental Society, time and place of meeting not yet decided. Dr. Luther M. Weaver, secretary, 7103 Woodland Ave., Philadelphia, Pa.

Rhode Island Dental Society, Providence, R. I., time not yet decided. Dr. C. A. Carr, secretary, 209 Spring St., Newport, R. I.

South Carolina Dental Association, Columbia, S. C., time not yet decided. Dr. W. B. Simmons, secretary, Piedmont, S. C.

South Dakota State Dental Society, Aberdeen, S. D., time not yet decided. Dr. H. W. Thomas, secretary, Aberdeen, S. D.



## SOCIETY ANNOUNCEMENTS

Texas State Dental Association, San Antonio, Tex., May 11, 12, 13, 1911. Dr. J. G. Fife, secretary, 736 Wilson Blvd., Dallas, Tex.

Utah State Dental Society, time and place of meeting not yet decided. Dr. W. G. Dalrymple, secretary, 2421 Washington Ave., Ogden, Utah.

Vermont State Dental Society, time and place of meeting not yet decided. Dr. H. F. Hamilton, secretary, Newport, Vt.

West Virginia State Dental Society, time and place of meeting not yet decided. Dr. F. L. Wright, secretary, Wheeling, W. Va.

Wisconsin State Dental Society, Eau Claire, Wis., July 11, 12, 13, 1911. Dr. O. G. Krause, secretary, Wells Bldg., Milwaukee, Wis.

---

### **National Dental Association.**

The fifteenth annual meeting of the National Dental Association will be held in Cleveland, Ohio, July 25 to 28, 1911.

185 East State St., Columbus, Ohio. HOMER C. BROWN, Secretary.

---

### **Resolutions Passed by the National Dental Association.**

*Resolved*, That it is the conviction of the National Dental Association that the metric system shall become the accepted standard of weights and measures in all professional and commercial transactions.

To accomplish this purpose at as early a date as may be practicable, it is urged that all physicians, dentists, druggists and dealers in precious metals be urged to put into practice this system of weights and measures at once. It is further

*Resolved*, That this resolution be published with the proceedings of the Society, and a copy sent to all the dental journals and to the Secretary of the U. S. Pharmaceutical Convention, Dr. Murray Galt Motter, 1841 Summit Place, Washington, D. C.

---

### **Alumni Association of Marquette University.**

#### **Department of Dentistry.**

The fifth annual meeting of the Alumni Association of Marquette University will be held January 24 and 25, 1911, in the Auditorium in Milwaukee, Wis.

Milwaukee, Wis.

O. G. KRAUSE, Secretary.





## **G. V. Black Dental Club.**

---

The G. V. Black Dental Club of St. Paul, Minn., will hold a mid-winter clinic in St. Paul on February 16-17, 1911.

A very interesting program is being arranged. Operations will be made and papers read by prominent members of the profession. Full program will be published later. The profession generally is invited to attend this meeting.

Members of the profession having anything new to offer for our consideration are most cordially invited to be present and show same. Drs. G. V. Black and C. N. Johnson, of Chicago, will be in attendance and take part in this meeting.

For further information address

R. B. WILSON, Secretary.

American National Bank Bldg., St. Paul, Minn.

---

## **Banquet Tendered Dr. L. D. Archinard.**

---

In appreciation of the many years of valuable services to the dental profession, the Odontological Society of New Orleans tendered Dr. L. D. Archinard a surprise banquet at the West End Hotel on August 24th.

Dr. Archinard is ex-president of the Louisiana State Dental Society, ex-president of the First and Second District Dental Society, founder of the Odontological Society, organizer and professor of the New Orleans College of Dentistry, Dental Department Tulane University.

One of the features of the evening, which came as a surprise within a surprise, was the presentation of a handsome solid silver loving cup as a memento of the occasion.

Dr. A. G. Friedrichs acted as toastmaster. The following gentlemen were present: Doctors L. D. Archinard, A. G. Friedrichs, H. P. Magruder, Paul DeVerges, St. Clair Duke, L. G. Duke, E. B. Ducasse, A. L. Ducasse, E. L. Fortier, Joseph Bauer, C. N. Gibbons, J. E. Burleigh, A. A. Leefe, E. S. Magner, T. J. Wingrave, A. J. Perrault, V. K. Irion, F. H. Field, W. Healey, G. N. Weiss, M. O. Carey and J. J. Cappel, of New Orleans; Doctors S. J. Bourgeois, A. Bernard and H. J. Chauvin, of Morgan City; Dr. J. A. Richard, of Plaquemine; Dr. W. J. Boudreaux, of Patterson, and Dr. J. Hall LeBlanc, of Whitecastle.

ST. CLAIR DUKE, D.D.S., Secretary-Treasurer.

New Orleans, La.





### **Iowa State Dental Society.**

---

The forty-ninth annual meeting of the Iowa State Dental Society will be held at Des Moines, May 2, 3, 4, 1911.

This will be the largest and best meeting ever held by this society. A great effort is being made to increase the membership to 1,000 for 1912, at which time we will have our fiftieth annual meeting, and propose to celebrate accordingly.

Spencer, Iowa.

W. G. CRANDALL, Secretary.

---

### **Arizona State Dental Society.**

---

The second annual meeting of the Arizona Dental Society was held in Phoenix, November 9-10-11. The election of officers resulted as follows:

J. Harvey Blain, Prescott, President; W. P. Sims, Bisbee, Vice-President; H. H. Wilson, Phoenix, Secretary-Treasurer. Board of Directors: John A. Lentz, Phoenix; Ralph J. Roper, Prescott; John P. Yemen, Yuma.

Phoenix, Ariz.

H. H. WILSON, Secretary.

---

### **Indiana State Board of Dental Examiners.**

---

The Indiana State Board of Dental Examiners will hold their next regular session at the State House in Indianapolis, beginning Monday, January 9, 1911, and continuing four days.

At this meeting all applicants for registration in this State will be examined. No other meeting will be held until June. For further examination address the Secretary,

F. R. HENSHAW.

507-8 Pythian Bldg., Indianapolis.

---

### **Harvard Dental Alumni Association**

---

The following list of officers were elected at the thirty-ninth annual meeting of the Harvard Dental Alumni Association, held in Boston,





## ITEMS OF INTEREST

Mass., June 27, 1910, viz.: President, Waldo E. Boardman, '86, Boston, Mass.; secretary, Frank T. Taylor, '90, Boston, Mass.; treasurer, Harold DeW. Cross, '96, Boston, Mass.; member of Executive Committee for two years, Norman B. Nesbitt, '99, New Bedford, Mass. The above-named officers compose the council.

Committee on Nomination and Election of Officers: Elbridge A. Shorey, '90, Dover, N. H.; Charles T. Warren, '02, Boston, Mass.; Amos I. Hadley, '91, Boston, Mass.

WALDO E. BOARDMAN, Secretary.

---

### **Clinic of Alumni Association of Chicago College of Dental Surgery.**

---

The annual clinic of the Alumni Association of the Chicago College of Dental Surgery will be held in the College Building on Wednesday, January 18, 1911. Dr. J. P. Buckley will read a paper. All ethical practitioners are cordially invited to attend.

Chicago, Ill.

H. C. PEISCH, Secretary.





